OPERATING AND SERVICE MANUAL

MFP MASTER
A24687

BOONTON ELECTRONICS CORPORATION

OPERATING AND SERVICING MANUAL

MODEL 55B

CONTROL UNIT

BOONTON ELECTRONICS CORPORATION

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6-72/55B a

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1. General Description

The Model 55B Control Unit is a special purpose programmer and display panel for the 170 Series of Capacitance Test Systems. It internally selects and programs the nominal capacitance value and tolerance limits in automatic sequence, contains the appropriate output and display circuitry, and provides the required interface function for any associated mechanical handling equipment.

The applicable test parameters measured by the system are reduced to DC analog voltages. These analog equivalents are properly scaled and presented to the Model 55B to be compared with the internally selected test limits.

A three stage binary counter, decoding matrix, and appropriate delay circuits are contained in the Control Unit, which produce the essential time markers T_0 through T_5 and the Test Complete Signal T_f. These time signals are used to sequentially program the selected tolerance limit values, and decode the test results for the proper output and display information.

The results of each test are issued in visual form by a colored front panel lamp for each category, and in a similar manner by mercury-wetted relay contact closures for each category available at the rear of the unit.

A Start Test signal initiates the test cycle and may be introduced through an external contact closure or simulated by the Manual Start button provided on the front panel. The Start Test signal may also be provided by internal re-routing of T_f, in order to continuously scan the capacitance under test.

The decisions are clamped such that each test result is held until just prior to the next decision.

TABLE OF REPLACEABLE PARTS

MAIN ASSEMBLY

Reference	Description	BEC Part No.
A1	Amplifier, Philbrick P2AU	421001
A2, A3	Operational Amplifier Assembly	054015
C1, C3-C8	Capacitor, .1μf 200V 10% Sprague	234005
C2	Capacitor, .022μf 200V 5% Sprague	234040
C9, C10	Capacitor, .01μf 200V 10% Sprague	234027
CB1, CB2	SCR Driver Card Assembly	BX5133-18-1
CB3	Logic III Card Assembly	BX5213-19 & 16-3B
CB4	Delay X Card Assembly	BX5213-20-1&2
CB5	Logic II Card Assembly	BX5133-14-1
CB6	Driver II Card Assembly	BX5124-118-1
CB7	SCR Driver II Card Assembly	BX5133-23-1
CB8	Inverter Card Assembly	BX5124-55-1
CB9	Matrix Card Assembly	BX5124-52-1
CB10	Counter Card Assembly	BX5124-49-1
CB11	Flip-Flop IV Card Assembly	BX5150-19-1
CB12	Decision Reset II Card Assembly	BX5213-5-1
CR1-CR67	Diode, 1N456A	530051
CR68-CR77, CR80-CR83, CR86-CR88	Diode, 1N2071	530057
CR84, CR85	Diode, FD300	530052
E1	Lamp, Neon NE2D	545108
E2-E17	Lamp, Incandescent No. 330	545110
E18-E21	Lamp, Dialco 252-9951-0975	545117
F1	Fuse, AGC 1 Amp	545500
J1	Receptacle, Amphenol 165-15 9 Pin Male	477168
J2	Receptacle, C. J. P-321-EB Male 21 Pin	477217
J3	Receptacle, C. J. S-315-EB Female 15 Pin	479172
J6	Binding Post, GR938WR Red	740134
J7	Binding Post, GR938P Metallic	740107
J8	Receptacle, C. J. P-321-EB Male 21 Pin	477217
KR1-KR48, K1-K19	Relay, Adams & Westlake MWS7-16261-1	471004
R1	Resistor, Bourns 36405S-1-102 1K Senior Pot	311230
R2-R5	Resistor, 1 Meg 5% 1/2W	301159
R6	Resistor, 100K 5% 1/2W	301135
R7	Resistor, 5.1K 5% 1/2W	301104
R8	Resistor, 1K 1% 1/2W Metalfilm RN70C	326250
R9	Resistor, 10K 1% 1/2W Metalfilm RN70C	326375
R10	Resistor, Beckman 78SR2KBW 2K Trimpot Helipot	311237
R67	Resistor, 51Ω 1/2W 5% AB	301056

TABLE OF REPLACEABLE PARTS

MAIN ASSEMBLY

Reference	Description	BEC Part No.	
R16,R18,R25,R27, R34,R36,R43,R45, R52,R53,R54,R61, R62,R63	Resistor, 1K .01% 1/3W WW	314250	
R14,R15,R19,R20, R23,R24,R28,R29, R32,R33,R37,R38, R41,R42,R46,R47, R50,R51,R55,R56, R59,R60,R64,R65	Resistor, 2K .01% 1/3W WW	314253	
R13,R21,R22,R30, R31,R39,R40,R48, R49,R57,R58,R66	Resistor, 4K .01% 1/3W WW	314257	
R17,R26,R35,R44	Resistor, 1,1111K .01% 1/3W WW	314499	
SA1,SA2,SA3	Switch Assembly	054003	BX5142-7
SA4	Switch Assembly	054004	BX5142-8
SA5	Switch Thumb Wheel Assembly	055003	CX5150-8
SW1	Switch, Toggle H. H. Smith 520 SPST	465109	
SW2	Switch, Selector JBT V-71021N	466162	
SW3	Switch, Pushbutton Controls Co. of America C-113P3	465117	
SW28-SW37	Switch, Toggle Alco MST-115H	465123	

TABLE OF REPLACEABLE PARTS

AMPLIFIER ASSEMBLY - AX5100-164B

Reference	Description	BEC Part No.
A2, A3	Amplifier, Philbrick SQ-10A	421007
R16, R17	Resistor, Beckman 78PR50K	311234

TABLE OF REPLACEABLE PARTS

POWER SUPPLY ASSEMBLY - DX5213-9

Reference	Description	BEC Part No.
C1, C2	Capacitor, Sprague 250μf 50V	283157
CR78, CR79, CR89, CR90	Diode, 1N2069	530053
J4	Receptacle, C. J. S-321-EB	479200
J5	Receptacle, Amphenol 126-805	479175
P5	Plug, Amphenol 11 Pin Male 126-809	477169
PS1	Power Supply Sub-Assembly	054006
PS2	Power Supply, Technipower PL14.5-0.750	421457
R2	Resistor, 270Ω 2W 5% AB	304073
T1	Transformer, 730-6 Magnetic Winding	446027
T2	Transformer, F40X Triad	446023
R3, R4	Resistor, 100Ω 1/2W 5% AB	301063

TABLE OF REPLACEABLE PARTS

SUB ASSEMBLY

Reference	Description	BEC Part No.
	Power Supply I Bd. Assembly (CB1) - BX5135-31-1,2&3	
C8,C9	Capacitor, 1.0µf 200V Aerovox	230104
C35,C36	Capaciator, .1µf 200V Sprague	234005
C11,C10	Capacitor, 50µf 25V Sprague	283159
R12,R23	Resistor, 1.2K 5% 1/2W AB	301089
R14,R24	Resistor, 3K 5% 1/2W AB	301098
R17,R26	Resistor, 5.6K 5% 1/2W AB	301105
R15,R28	Resistor, 7.5K 5% 1/2W AB	301108
R13,R25	Resistor, 15K 5% 1/2W AB	301115
R16,R27	Resistor, 2.5K JA1L040S252UC AB	311211
Q9,Q10	Transistor, 2N404A T.I.	528002
Q4,Q5	Transistor, 2N1304 T.I.	528011
Z8,Z9	Diode, 1N821 Motorola Zener	530050
	Power Supply II Bd. Assembly (CB2) - BX5142-30-1	
R9,R19	Resistor, 560Ω 5% 1/2W AB	301081
R8,R20	Resistor, 1.2K 5% 1/2W AB	301089
R11,R21,R22	Resistor, 10K 5% 1/2W AB	301111
R10	Resistor, 15K 5% 1/2W AB	301115
Q1,Q6	Transistor, 2N404A T.I.	528002
Q2,Q8	Transistor, 2N1304 T.I.	528011
Q7	Transistor, 2N1039 T.I.	528012
Q3	Transistor, 2N4000 T.I.	528030
Z4,Z5,Z6,Z7	Diode, 1N456A G.I.	530051
	Power Supply III Bd. Assembly (CB3) - BX5142-35-1&2	
C6,C7	Capacitor, 150µf 150V Sprague	283156
C5	Capacitor, 250µf 50V Sprageu	283157
R7,R18	Resistor, 33Ω 5% 1/2W AB	301051
CR7,CR8,CR9, CR10	Diode, 1N2069 T.I.	530053

TABLE OF REPLACEABLE PARTS

SUB ASSEMBLY

Reference	Description	BEC Part No.
	Power Supply IV Bd. Assembly (CB4) - BX5142-42-1&2	
C32, C33, C34	Capacitor, 2000pF 500V	200500
C1, C2	Capacitor, 150μf 150V	283156
C3, C4	Capacitor, 250μf 50V	283157
R1A/B, R3A/B, R5	Resistor, 10Ω 5% 1/2W AB	301039
R4	Resistor, 62Ω 5-1/4W Ohmite	310169
R6	Resistor, 1K 5% 2W AB	304087
R2	Resistor, 1.5K 5% 2W AB	304091
Z1, Z3	Diode, 1N3796A Motorola	530047
Z2	Diode, 1N3789A Motorola	530049

TABLE OF REPLACEABLE PARTS

SUB ASSEMBLY

Reference	Description	BEC Part No.
	SCR Driver Card Assembly - BX5133-18-1&2	
C1-C4	Capacitor, .1μf 20% 200V Sprague	234005
R1,R9,R17,R25	Resistor, 1K 5% 1/2W AB	301087
R4,R12,R20,R28, R37-R40	Resistor, 5.1K 5% 1/2W AB	301104
R3,R11,R19,R27	Resistor, 10K 5% 1/2W AB	301111
R2,R8,R10,R16, R18,R24,R26,R32	Resistor, 220K 5% 1/2W AB	301143
R5,R6,R7,R13,R14, R15,R21,R22,R23, R29,R30,R31,R33, R43,R35,R36	Resistor, 30K 5% 1/2W AB	301122
Q1-Q8	Transistor, 2N404A T.I.	528002
SCR1-SCR4	Rectifier, Silicon GE 2N1595	532010
	SCR Driver II Card Assembly - BX5133-23-1&2	
C1,C2	Capacitor, .1μf 20% 200V Sprague	234005
C4	Capacitor, .022μf 200V Sprague	234040
R1-R9	Resistor, 1K 5% 1/2W AB	301087
R2,R8,R10,R16, R18,R24,R26,R32	Resistor, 220K 5% 1/2W AB	301143
R3,R11,R19	Resistor, 10K 5% 1/2W AB	301111
R4,R12,R20,R36, R37	Resistor, 5.1K 5% 1/2W AB	301104
R5,R6,R7,R13, R14,R15,R21,R22, R23,R27,R29,R30, R31,R33,R34,R35	Resistor, 30K 5% 1/2W AB	301122
R25,R28	Resistor, 3K 5% 1/2W AB	301098
Q1 - Q8	Transistor, 2N404A T.I.	528002
CR1	Diode, 1N456A G.I.	530051
SCR1,SCR2	Rectifier, Silicon GE 2N1595	532010

TABLE OF REPLACEABLE PARTS

SUB ASSEMBLY

BEC Part No.	Description	BEC Part No.
	Logic III Card Assembly - BX5213-19 & 16-3B	
C3	Capacitor, .1μf 200V Sprague	234005
C1	Capacitor, .022μf 200V Sprague	234040
C2	Capacitor, .02μf 200V Sprague	230129
R4,R7,R11,R16, R25,R27,R29,R34	Resistor, 5.1K 5% 1/2W AB	301104
R6,R10,R15,R19, R20,R24,R30,R33	Resistor, 220K 5% 1/2W AB	301143
R12,R28	Resistor, 100K 5% 1/2W AB	301135
R13	Resistor, 3K 5% 1/2W AB	301098
R18	Resistor, 10K 5% 1/2W AB	301111
R26	Resistor, 82K 5% 1/2W AB	301133
R1,R2,R3,R5,R8, R9,R14,R17,R21, R22,R23,R31,R32	Resistor, 30K 5% 1/2W AB	301122
Q1-Q12	Transistor, 2N404A T.I.	528002
	Logic II Card Assembly - BX5133-14-1&3	
R1,R2,R5,R6,R9,R10 R13,R14,R15,R18, R19,R20,R23,R24, R25,R28,R29,R30, R33	Resistor, 30K 5% 1/2W AB	301122
R3,R7,R11,R16, R21,R26,R31	Resistor, 220K 5% 1/2W AB	301143
R8,R12,R17,R22, R27,R32	Resistor, 5.1K 5% 1/2W AB	301104
R4	Resistor, 3K 5% 1/2W AB	301098
Q1-Q7	Transistor, 2N404A T.I.	528002

TABLE OF REPLACEABLE PARTS

SUB ASSEMBLY

Reference	Description	BEC Part No.
	Delay X Card Assembly - BX5213-20	
C7, C8	Capacitor, .033μf 200V Sprague	234045
C1A, C1B, C2, C3, C4, C5A, C5B, C6	Capacitor, .1μf 10% 200V Sprague 192P10402	234005
R1, R3, R7, R8, R17, R20, R25, R26, R27, R28, R29, R30	Resistor, 30K 5% 1/2W AB	301122
R2, R4, R18	Resistor, 220K 5% 1/2W AB	301143
R5, R6, R11, R12, R15, R16, R19, R22, R24	Resistor, 5.1K 5% 1/2W AB	301104
R9, R10, R13, R14, R21, R23	Resistor, 100K 5% 1/2W AB	301135
Q1-Q10	Transistor, 2N404A T.I.	528002
CR1, CR2, CR3, CR4	Diode, 1N456A G.I.	530051
	Driver II Card Assembly - BX5124-118-1	
R1, R4, R5, R6, R9, R10, R13, R14, R17	Resistor, 10K 5% 1/2W AB	301111
R2, R3, R7, R8, R11, R12, R15, R16, R18	Resistor, 220K 5% 1/2W AB	301143
Q1-Q9	Transistor, 2N404A Selected from 528002 T.I.	528018
	Inverter Card Assembly - BX5124-55-1	
R5, R6, R11, R12, R17, R18, R23, R24, R27	Resistor, 3K 5% 1/2W AB	301098
R1, R4, R7, R10, R13, R16, R19, R22, R25	Resistor, 30K 5% 1/2W AB	301122
R2, R3, R8, R9, R14, R15, R20, R21, R26	Resistor, 220K 5% 1/2W AB	301143
Q1-Q9	Transistor, 2N404A T.I.	528002

TABLE OF REPLACEABLE PARTS

SUB ASSEMBLY

Reference	Description	BEC Part No.
	Counter Card Assembly - BX5124-49-1&4	
C1-C6	Capacitor, 2000pf 5% 500V Arco DM19F202J	200500
R4,R5,R11,R13, R19,R20,R26,R28, R34,R35,R41,R43	Resistor, 5.1K 5% 1/2W AB	301104
R1,R6,R8,R10,R14, R16,R21,R23,R25, R29,R31,R36,R38, R40,R44,R46,R47, R48	Resistor, 30K 5% 1/2W AB	301122
R2,R3,R7,R9,R12, R15,R17,R18,R22, R24,R27,R30,R32, R33,R37,R39,R42, R45	Resistor, 220K 5% 1/2W AB	301143
Q1-Q12	Transistor, 2N404A T.I.	528002
CR1-CR6	Diode, 1N456A G.I.	530051
	Matrix Card Assembly - BX5124-52-1	
R5,R10,R15,R20, R25,R30,R35,R40	Resistor, 3K 5% 1/2W AB	301098
R1,R2,R3,R6,R7, R8,R11,R12,R13, R16,R17,R18,R21, R22,R23,R26,R27, R28,R31,R32,R33, R36,R37,R38	Resistor, 30K 5% 1/2W AB	301122
R4,R9,R14,R19,R24, R29,R34,R39	Resistor, 220K 5% 1/2W AB	301143
Q1-Q8	Transistor, 2N404A T.I.	528002

TABLE OF REPLACEABLE PARTS

SUB ASSEMBLY

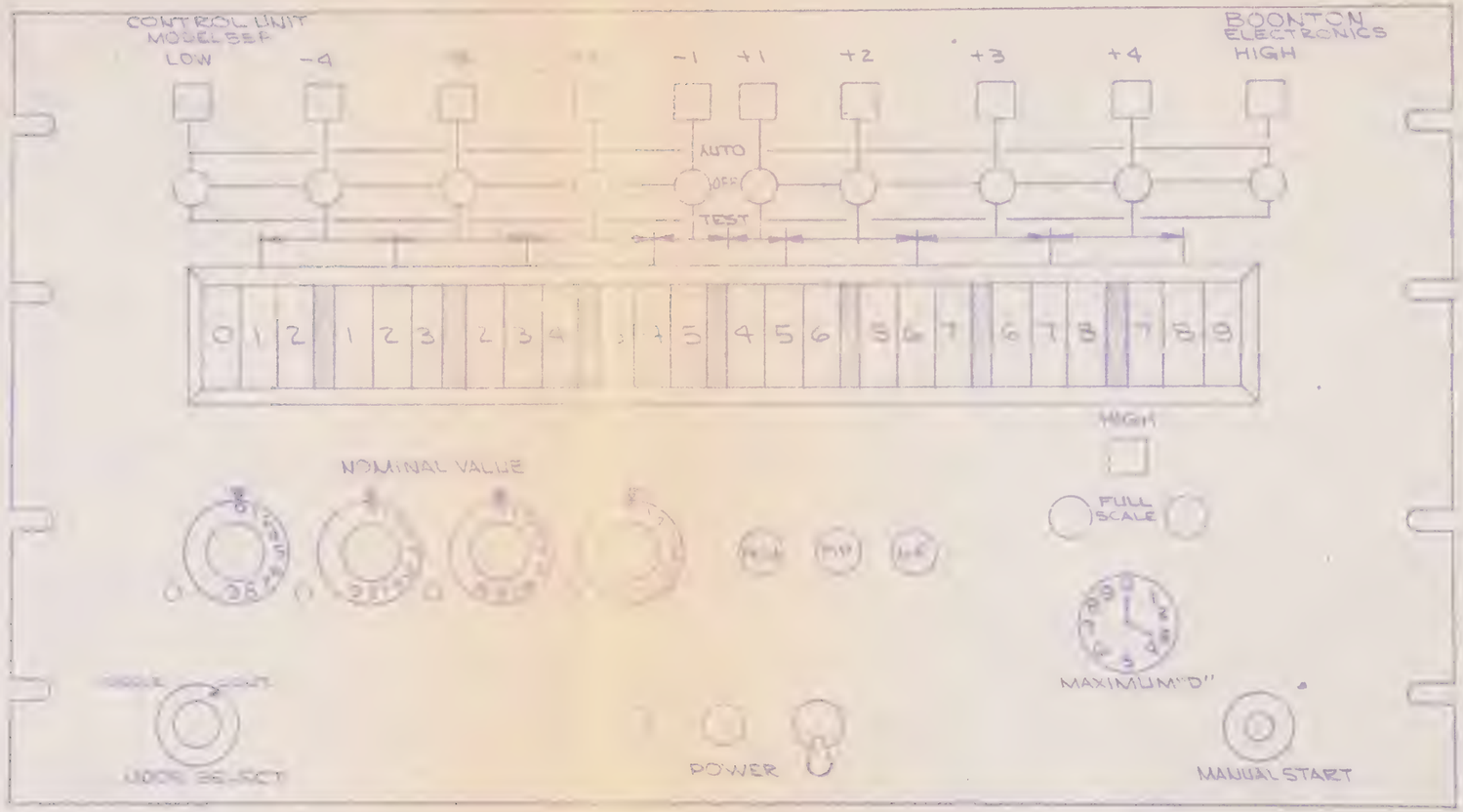
Reference	Description	BEC Part No.
	Flip Flop IV Card Assembly - BX5150-19-1	
R7,R18,R19,R30	Resistor, 3K 5% 1/2W AB	301098
R2,R4,R10,R15, R22,R27,R33	Resistor, 5.1K 5% 1/2W AB	301104
R3,R5,R6,R9,R11, R13,R16,R21,R23, R25,R28,R31,R32, R34,R35	Resistor, 30K 5% 1/2W AB	301122
R1,R8,R12,R14,R17, R20,R24,R26,R29, R36	Resistor, 220K 5% 1/2W AB	301143
Q1-Q10	Transistor, 2N404A T.I.	528002
CR1,CR2	Diode, 1N456A	530051
	Decision Reset II Logic Card Assembly BX5213-5-1	
C2	Capacitor, .1μf 20% 200V	234005
C1	Capacitor, .022μf 200V	234040
C3,C4A,C4B	Capacitor, .22μf 100V	236005
R15	Resistor, 100Ω 5% 1/2W AB	301063
R14	Resistor, 1K 5% 1/2W AB	301087
R11,R27,R29	Resistor, 100K 5% 1/2W AB	301135
R3,R6,R9,R19, R21,R25,R32	Resistor, 220K 5% 1/2W AB	301143
R1,R2,R5,R8,R17, R18,R20,R24,R31	Resistor, 30K 5% 1/2W AB	301122
R4,R7,R10,R12,R13, R16,R23,R26,R28, R30,R33	Resistor, 5.1K 5% 1/2W AB	301104
Q1-Q10	Transistor, 2N404A T.I.	528002
SCR1	Transistor, 2N1595	532010

TABLE OF REPLACEABLE PARTS

SWITCH SUB ASSEMBLY

Reference	Description	BEC Part No.	
SA1	Nominal Value Decade	054003	BX5142-7
SW1	Switch, Standard Grigsby C32844-SK8	466196	
R1,R6	Resistor, 1K .01% 1/3W WW	314250	
R2,R4,R7,R9	Resistor, 2K .01% 1/3W WW	314253	
R3,R8	Resistor, 4K .01% 1/3W WW	314257	
R5	Resistor, 1.1111K .01% 1/3W WW	314499	
SA2	Nominal Value Decade	054003	BX5142-7
SW2	Switch, Standard Grigsby C32844-SK8	466196	
R1,R6	Resistor, 1K .01% 1/3W WW	314250	
R2,R4,R7,R9	Resistor, 2K .01% 1/3W WW	314253	
R3,R8	Resistor, 4K .01% 1/3W WW	314257	
R5	Resistor, 1.1111K .01% 1/3W WW	314499	
SA3	Nominal Value Decade	054003	BX5142-7
SW3	Switch, Standard Grigsby C32844-SK8	466196	
R1,R6	Resistor, 1K .01% 1/3W WW	314250	
R2,R4,R7,R9	Resistor, 2K .01% 1/3W WW	314253	
R3,R8	Resistor, 4K .01% 1/3W WW	314257	
R5	Resistor, 1.1111K .01% 1/3W WW	314499	
SA4	Nominal Value Decade	054004	BX5142-8
SW4	Switch, Standard Grigsby C32844-SK8	466196	
R1,R5,R6	Resistor, 1K .01% 1/3W WW	314250	
R2,R4,R7,R9	Resistor, 2K .01% 1/3W WW	314253	
R3,R8	Resistor, 4K .01% 1/3W WW	314257	
SA5	Switch Thumb Wheel Assembly	055003	CX5150-8

REVISIONS				
ZONE	REV.	DATE	SIG.	DESCRIPTION



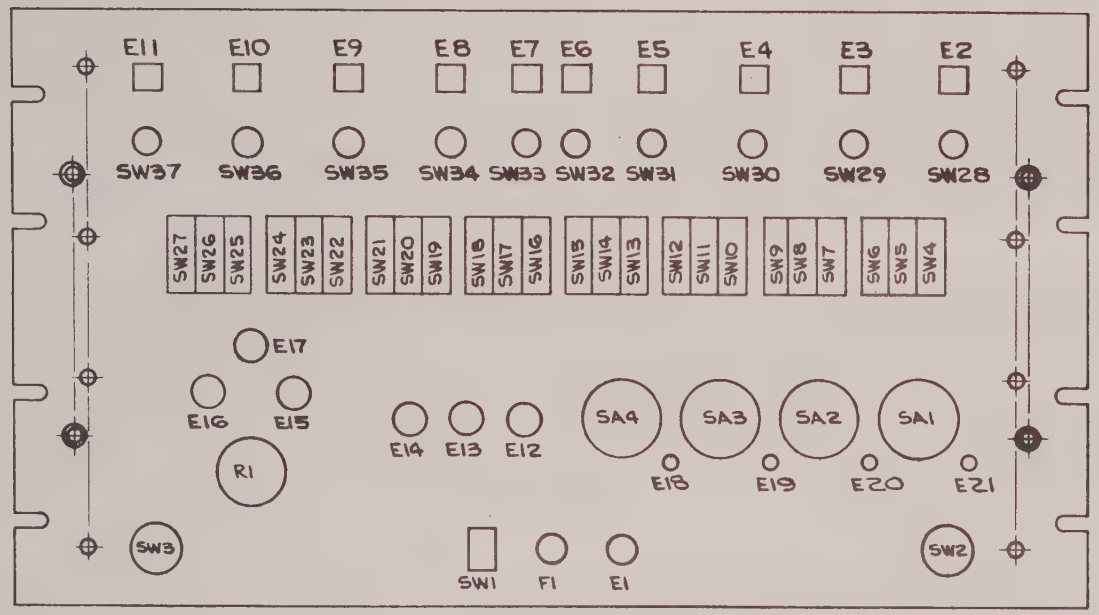
USED ON			TOLERANCES		
55D			2 PLACE DECIMAL .016 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED		
			SCALE		
			DRN	[illegible]	12/21/67
			CKD		
			APP		

BOONTON ELECTRONICS CORPORATION PARSIPPANY NEW JERSEY

FRONT PANEL LAYOUT

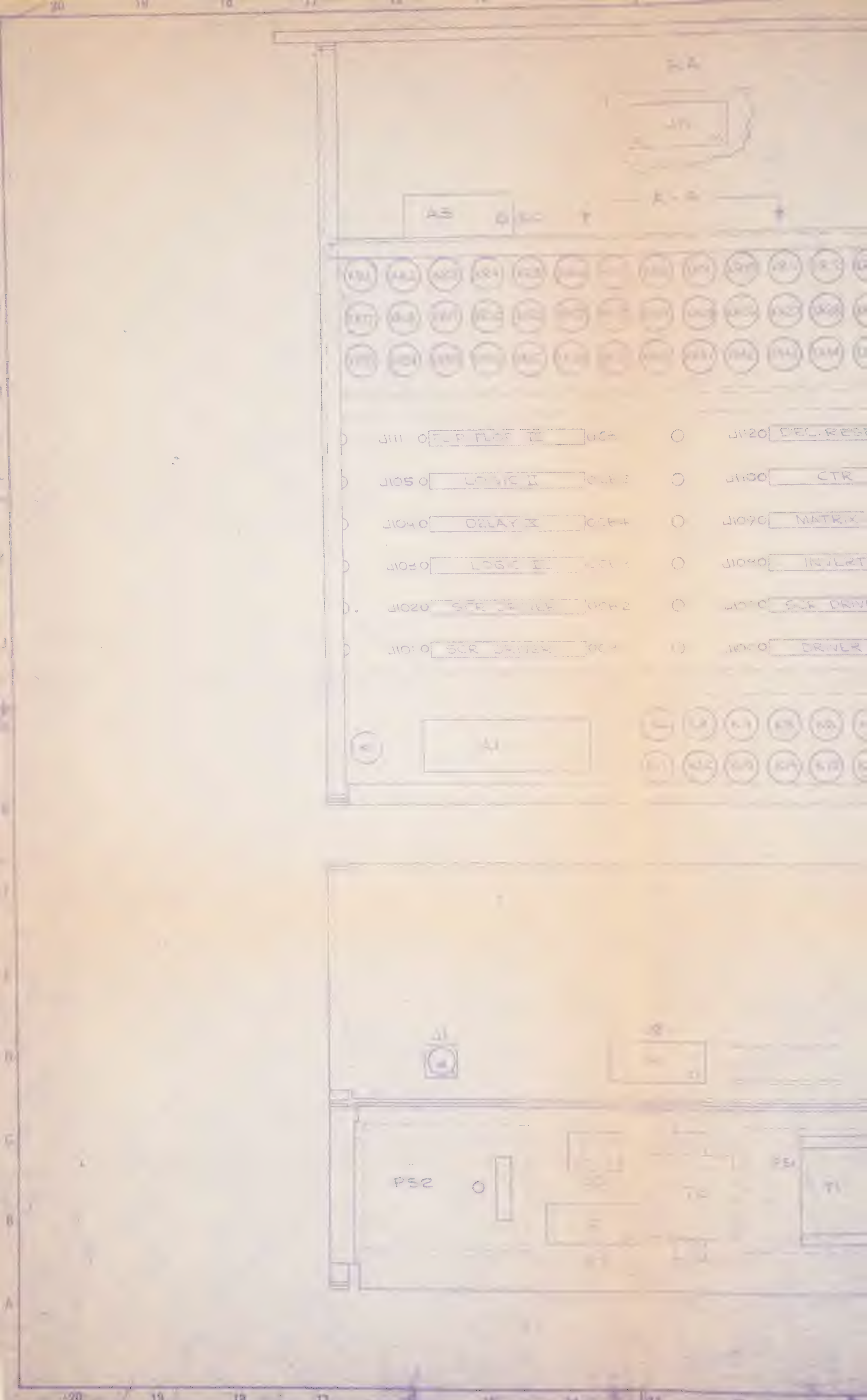
SH OF BX5213-21

REVISIONS				
ZONE	REV.	DATE	SIG.	DESCRIPTION

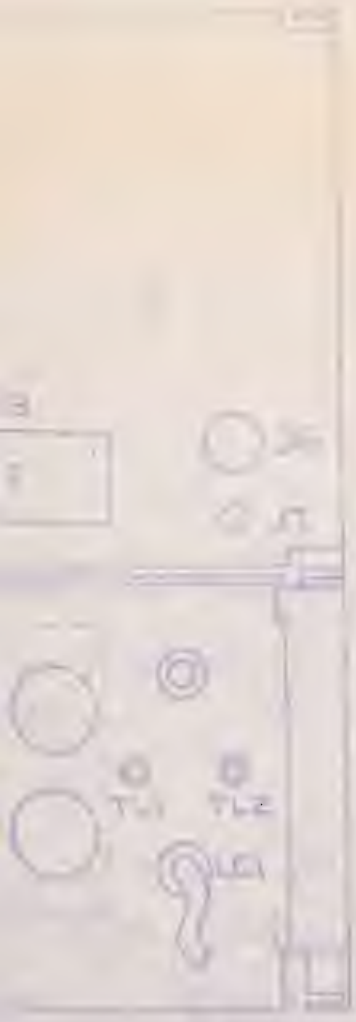


055002

USED ON	TOLERANCES	BOONTON ELECTRONICS CORPORATION — PARSIPPANY NEW JERSEY
55A	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED	COMP LOC PANEL REAR
	SCALE:	
	DRN CAB 12-27-67	
	CKD 12-27-67	
	APP	SH. OF BX5150-3


A5
J111
J105
J104
J103
J102
J101
J120
J100
J109
J108
J107
J106
A1
PS2
PS1
T1

ZONE	REV	DATE	ECO	DESCRIPTION



055 012

ROCKTON ELECTRONICS — ROCKAWAY, NEW JERSEY

COMP LOC
TOP & REAR VIEWS

CX5452-2

LOGIC 3

LOGIC II

DELAY II

DEC RESET

SCR DR II

LOGIC 3

LOGIC 3

SW2
MODE SELECT

DR II

OUTPUT INDICATOR
CX5150-24

DR II

INVERTER

MATRIX

CTR

LOGIC II

INVERTER

TOLERANCES

UNLESS OTHERWISE SPECIFIED

SCALE:

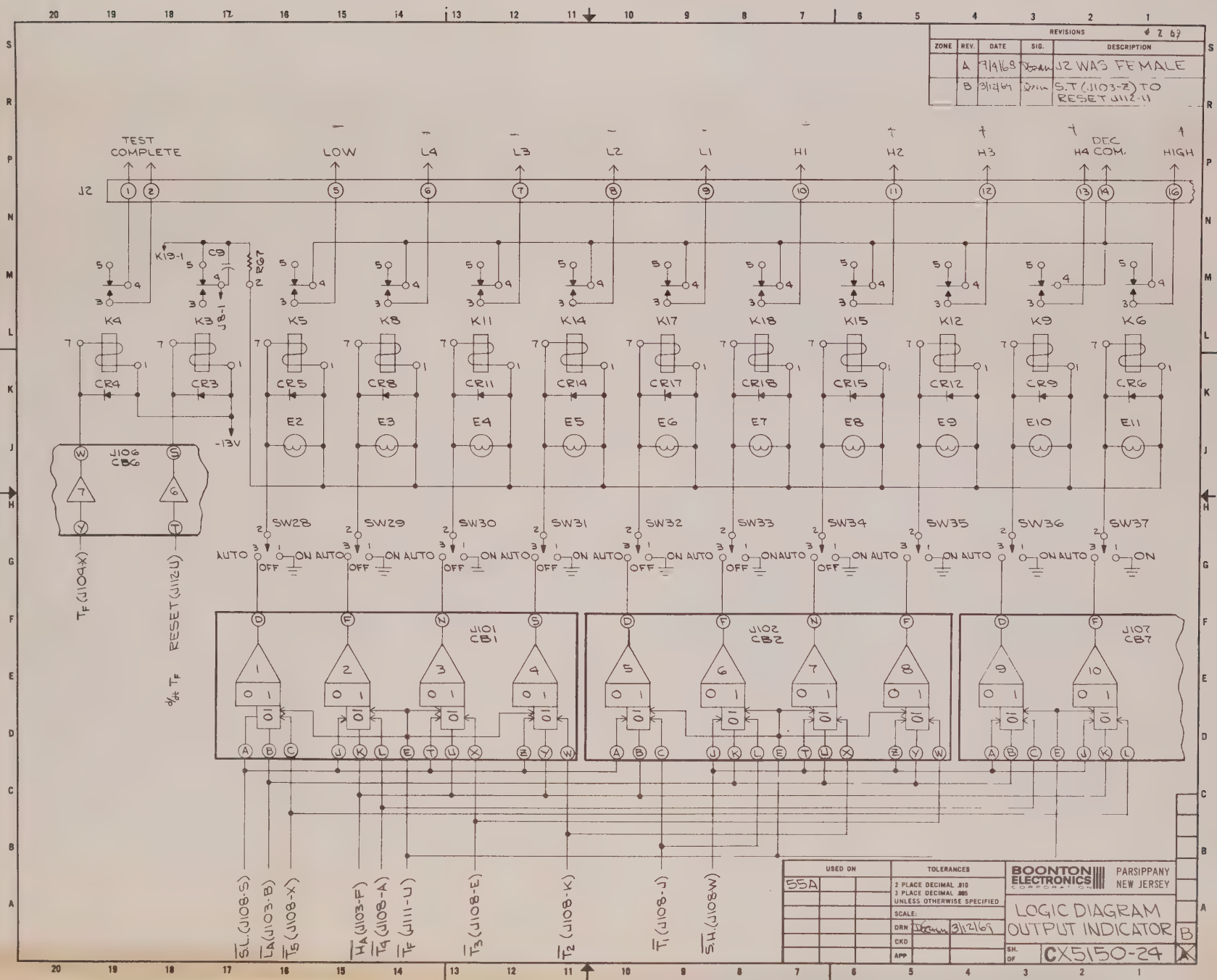
DRN		3-15-68
ENG		
APP		

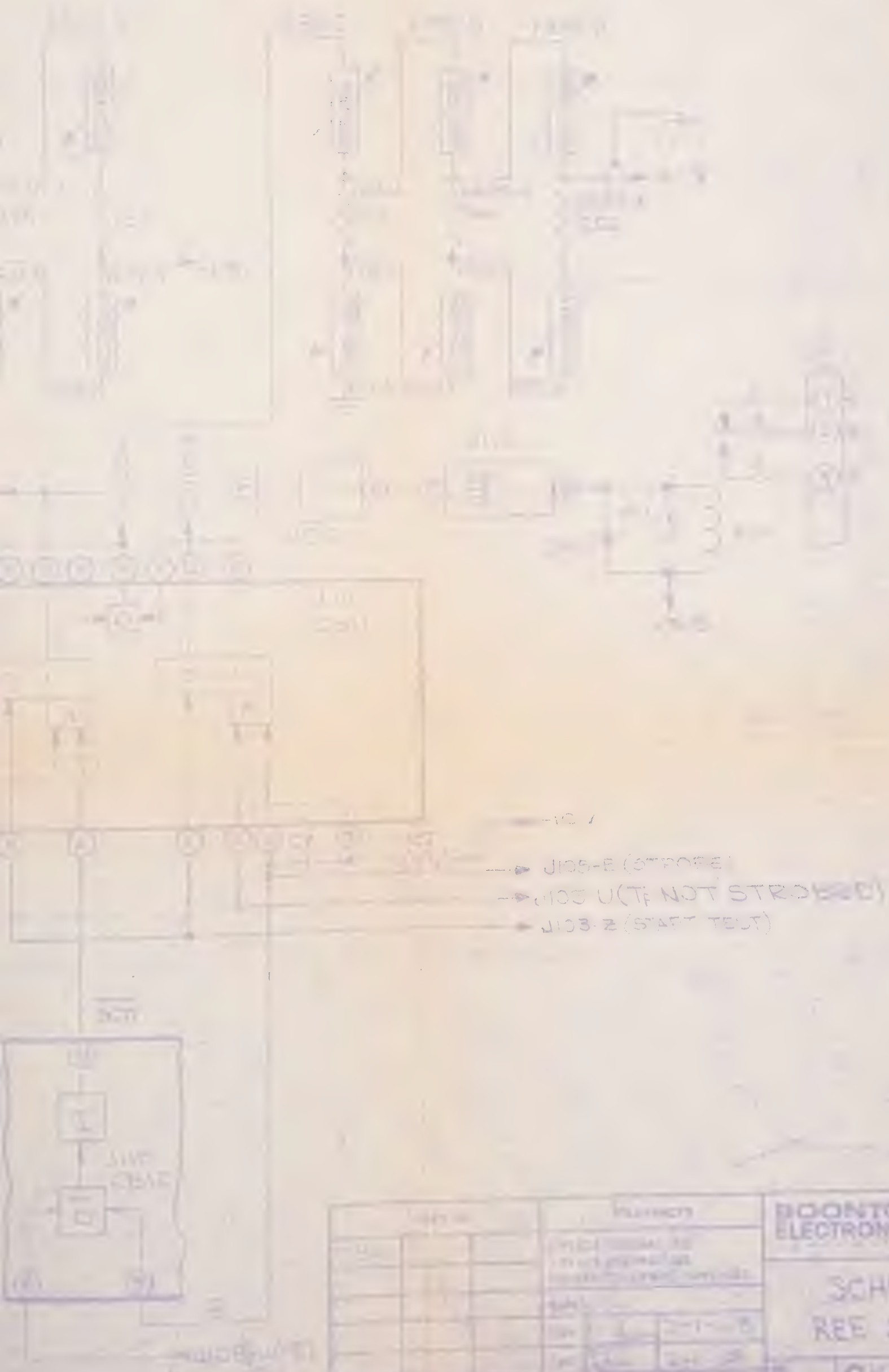
BOONTON ELECTRONICS

LOGIC DIAGRAM

SH. OF

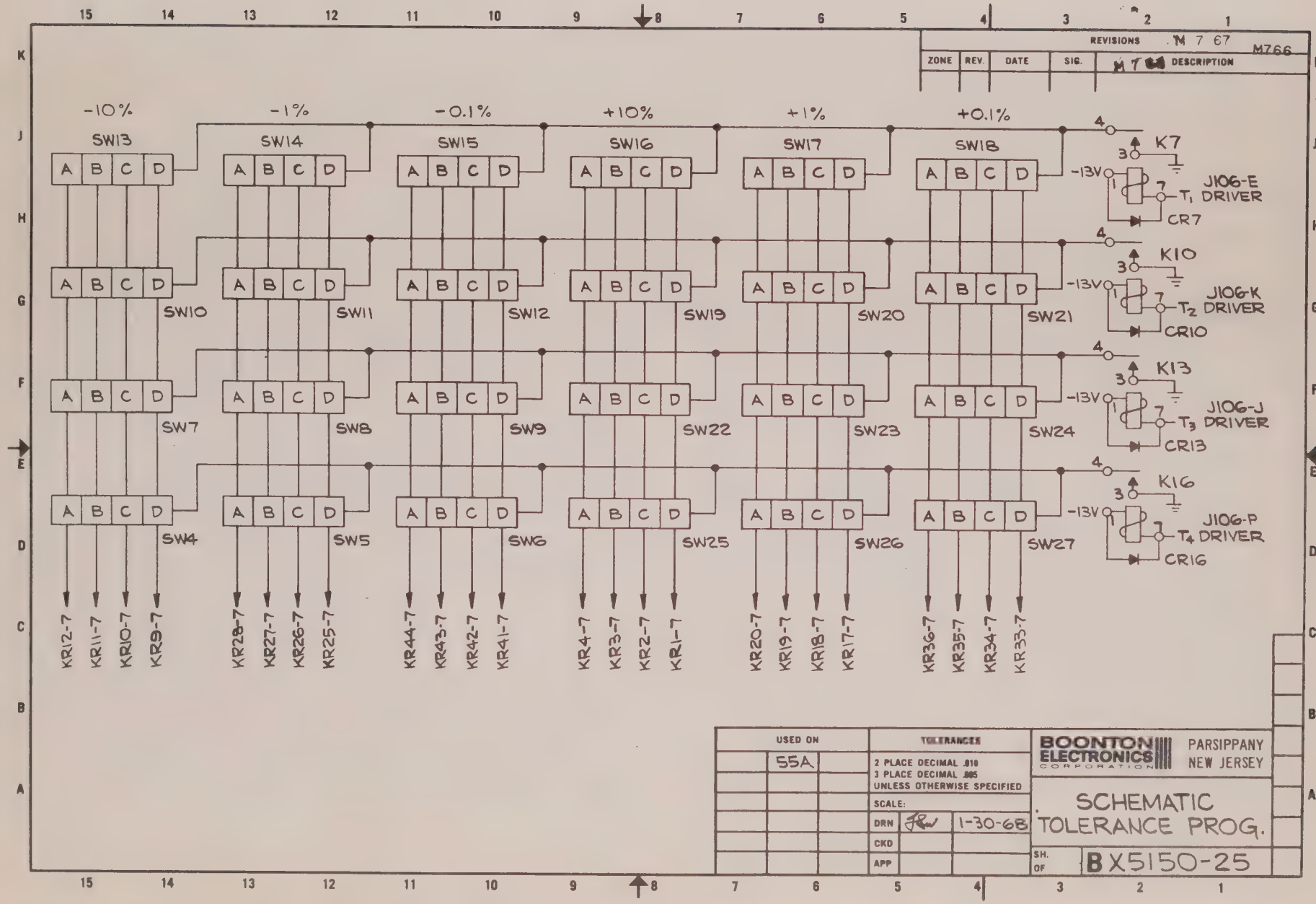
CX5240-12

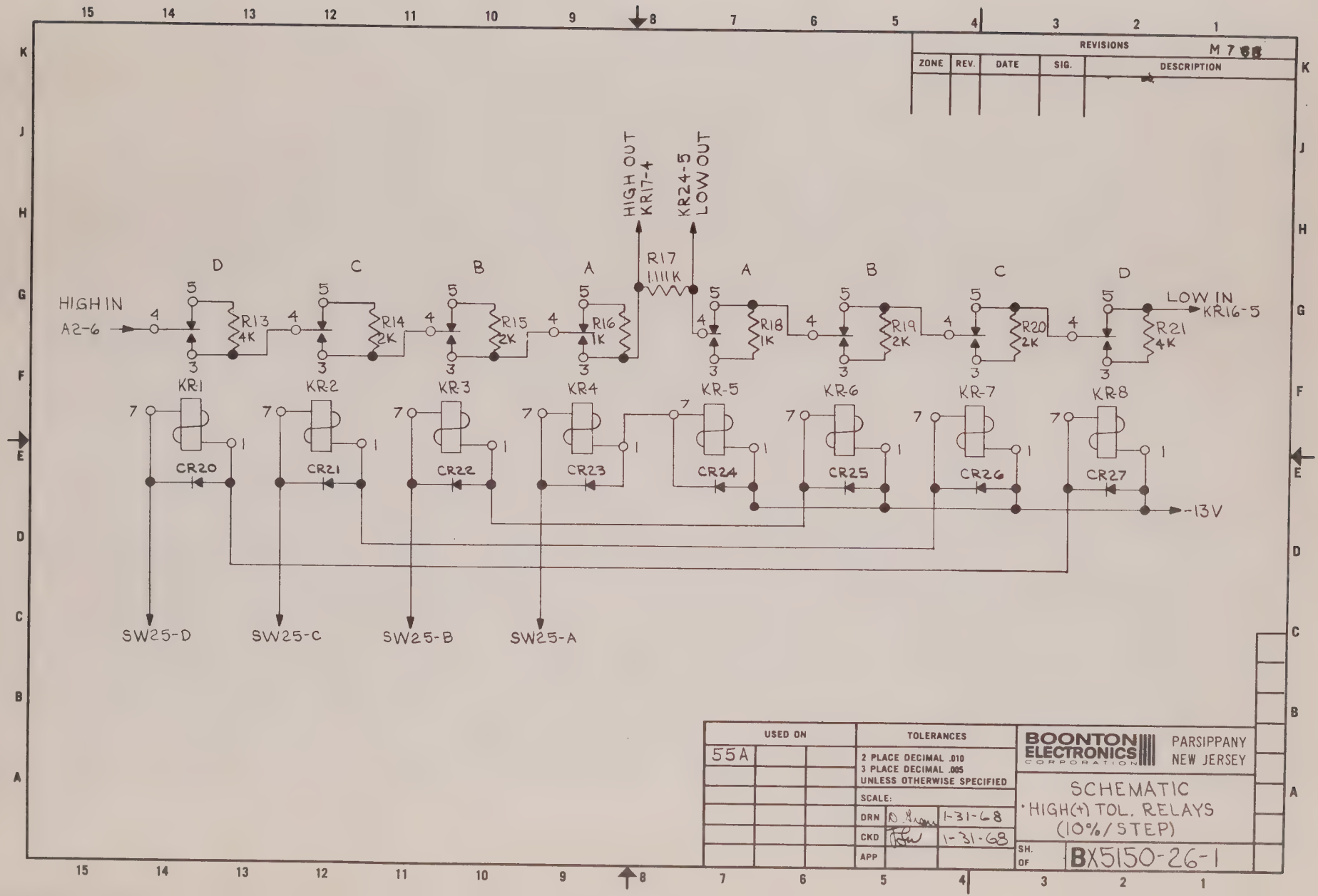

REVISIONS
ZONE | REV. | DATE | SIG. | DESCRIPTION
A | 7/19/68 | J2 WAS FEMALE
B | 3/12/69 | S.T (J103-Z) TO RESET J112-U
TEST COMPLETE
LOW
L4
L3
L2
L1
H1
H2
H3
DEC. H4 COM.
HIGH
J2
K4
K3
K5
K8
K11
K14
K17
K18
K15
K12
K9
K6
CR4
CR3
CR5
CR8
CR11
CR14
CR17
CR18
CR15
CR12
CR9
CR6
E2
E3
E4
E5
E6
E7
E8
E9
E10
E11
-13V
J106 CB6
SW28
SW29
SW30
SW31
SW32
SW33
SW34
SW35
SW36
SW37
AUTO
OFF
ON
J101 CB1
J102 CB2
J107 CB7
T_F (J109-X)
ϕ of T_F RESET (J112-U)
$\overline{SL}$ (J108-S)
$\overline{LA}$ (J103-B)
$\overline{T_5}$ (J108-X)
$\overline{H_A}$ (J103-F)
$\overline{T_4}$ (J108-A)
$\overline{T_F}$ (J111-U)
$\overline{T_3}$ (J108-E)
$\overline{T_2}$ (J108-K)
$\overline{T_1}$ (J108-J)
$\overline{SH}$ (J108-W)
USED ON
55A
TOLERANCES
2 PLACE DECIMAL ±10
3 PLACE DECIMAL ±05
UNLESS OTHERWISE SPECIFIED
SCALE:
DRN 3/12/69
CKD
APP
BOONTON ELECTRONICS CORPORATION
PARSIPPANY NEW JERSEY
LOGIC DIAGRAM
OUTPUT INDICATOR
SH. OF
CX5150-24
B

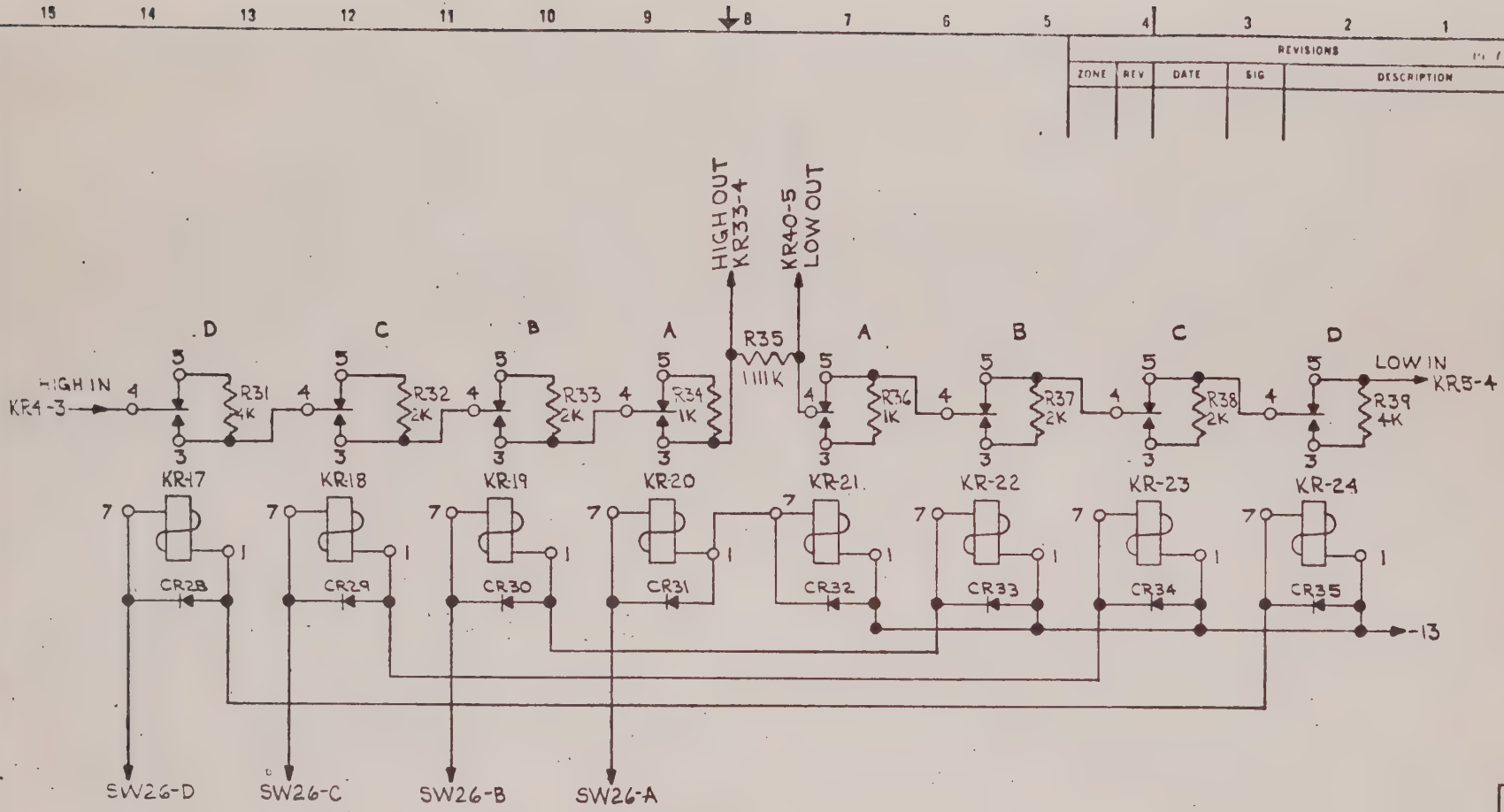


BOONTON ELECTRONICS

SCHEMATIC
REF SECTION


REVISIONS
ZONE REV. DATE SIG. DESCRIPTION
M766
-10%
-1%
-0.1%
+10%
+1%
+0.1%
SW13
SW14
SW15
SW16
SW17
SW18
SW10
SW11
SW12
SW19
SW20
SW21
SW7
SW8
SW9
SW22
SW23
SW24
SW4
SW5
SW6
SW25
SW26
SW27
A B C D
K7
K10
K13
K16
-13V
J106-E
T1 DRIVER
CR7
J106-K
T2 DRIVER
CR10
J106-J
T3 DRIVER
CR13
J106-P
T4 DRIVER
CR16
KR12-7
KR11-7
KR10-7
KR9-7
KR28-7
KR27-7
KR26-7
KR25-7
KR44-7
KR43-7
KR42-7
KR41-7
KR4-7
KR3-7
KR2-7
KR1-7
KR20-7
KR19-7
KR18-7
KR17-7
KR36-7
KR35-7
KR34-7
KR33-7
USED ON
55A
TOLERANCES
2 PLACE DECIMAL .010
3 PLACE DECIMAL .005
UNLESS OTHERWISE SPECIFIED
SCALE:
DRN
1-30-68
CKD
APP
BOONTON ELECTRONICS CORPORATION
PARSIPPANY NEW JERSEY
SCHEMATIC TOLERANCE PROG.
SH. OF
BX5150-25


REVISIONS
ZONE | REV. | DATE | SIG. | DESCRIPTION
M 7 68
HIGH IN
A2-6
D
C
B
A
R13 4K
R14 2K
R15 2K
R16 1K
R17 1.111K
HIGH OUT KR17-4
KR24-5 LOW OUT
A
B
C
D
R18 1K
R19 2K
R20 2K
R21 4K
LOW IN KR16-5
KR-1
KR-2
KR-3
KR-4
KR-5
KR-6
KR-7
KR-8
CR20
CR21
CR22
CR23
CR24
CR25
CR26
CR27
-13V
SW25-D
SW25-C
SW25-B
SW25-A
USED ON
55A
TOLERANCES
2 PLACE DECIMAL .010
3 PLACE DECIMAL .005
UNLESS OTHERWISE SPECIFIED
SCALE:
DRN 1-31-68
CKD 1-31-68
APP
BOONTON ELECTRONICS CORPORATION
PARSIPPANY NEW JERSEY
SCHEMATIC
*HIGH(+) TOL. RELAYS
(10%/STEP)
SH. OF
BX5150-26-1



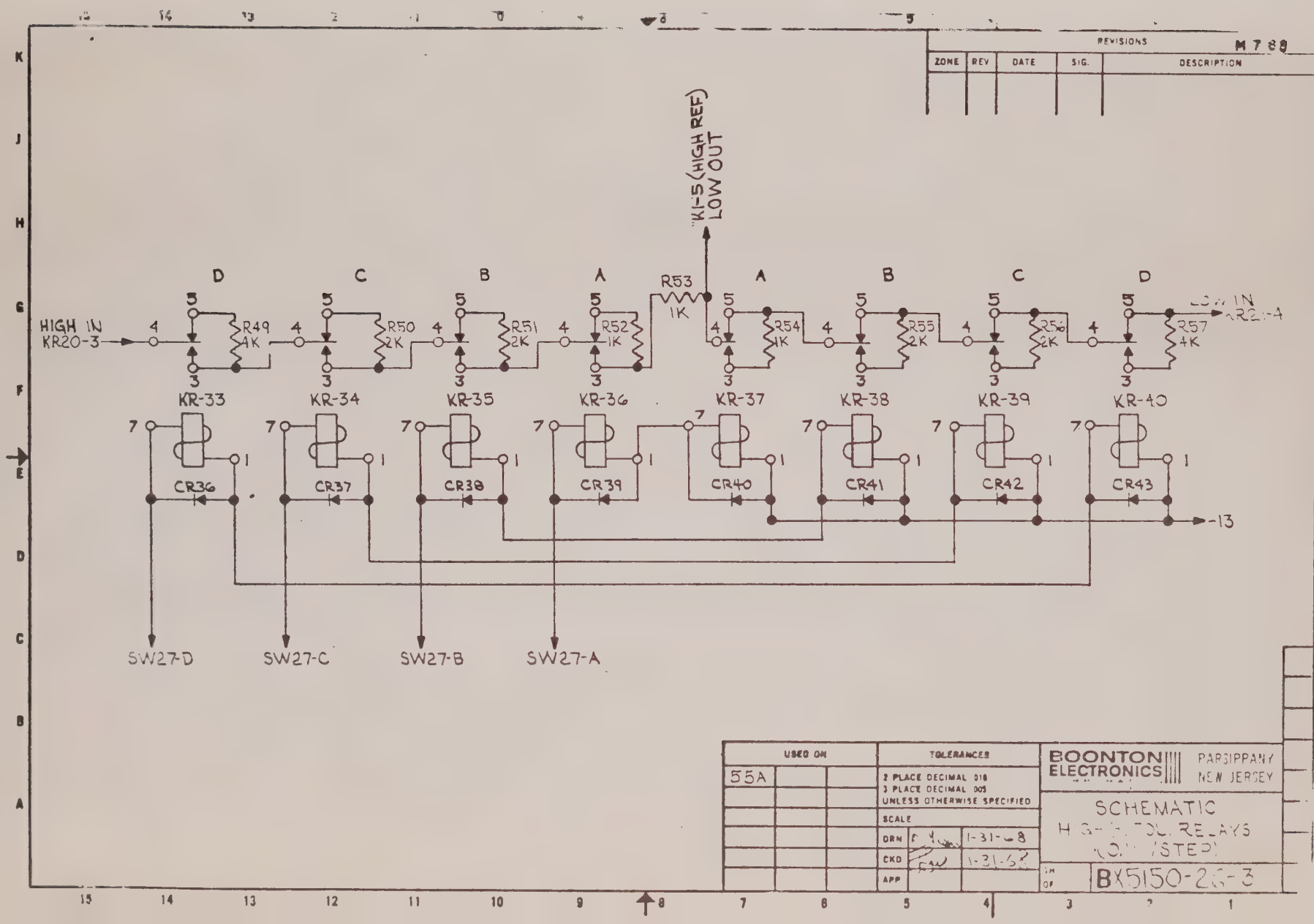
REVISIONS				
ZONE	REV	DATE	SIG	DESCRIPTION

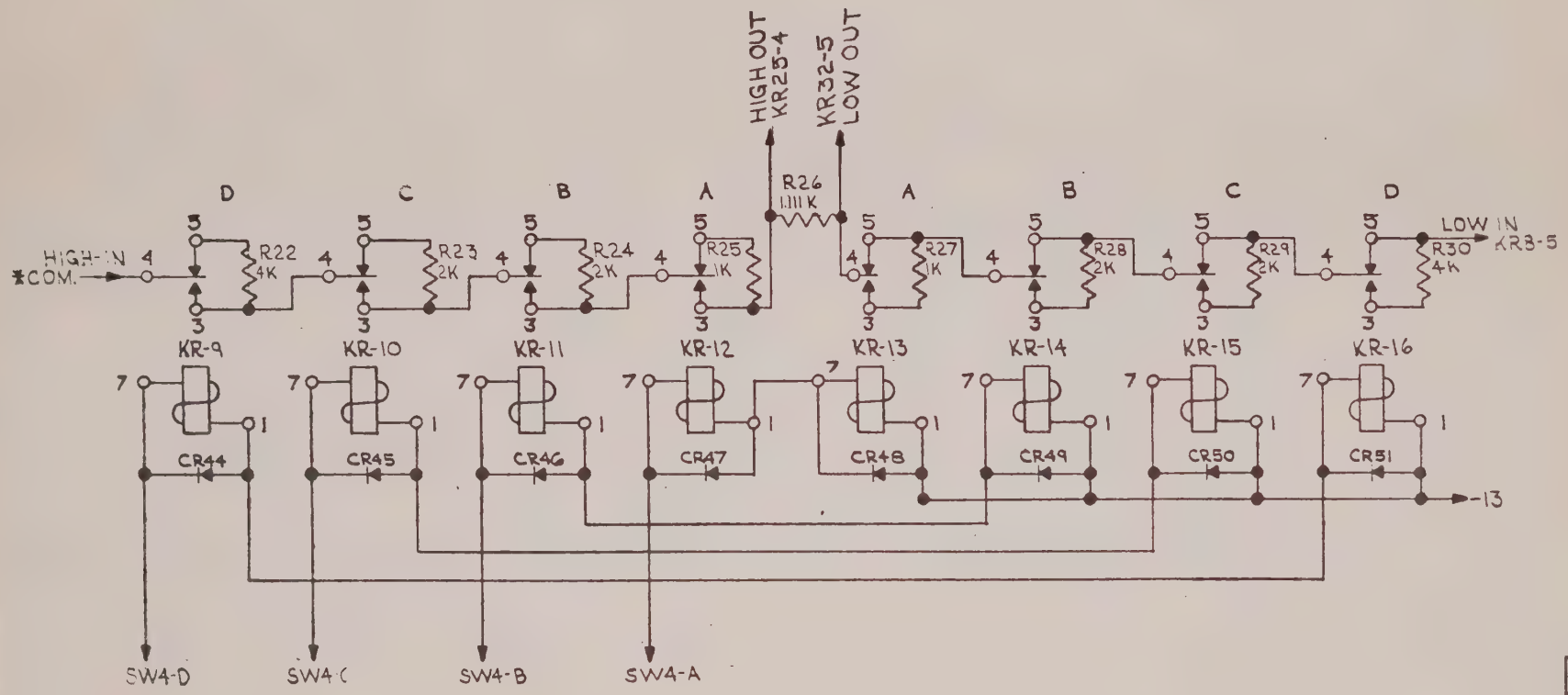
USED ON	TOLERANCES
55A	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED
	SCALE:
	DRN 1-31-68
	CKD 1-31-68
	APP

BOONTON ELECTRONICS PARSIPPANY NEW JERSEY

SCHEMATIC
HIGH (+) TOL. RELAYS
(1%/STEP)

SH OF BX5150-26-2


REVISIONS
M 7 8 8
ZONE | REV | DATE | SIG. | DESCRIPTION
KI-5 (HIGH REF) LOW OUT
HIGH IN KR20-3
D C B A R53 1K A B C D
R49 4K
R50 2K
R51 2K
R52 1K
R54 1K
R55 2K
R56 2K
R57 4K
KR-33 KR-34 KR-35 KR-36 KR-37 KR-38 KR-39 KR-40
CR36 CR37 CR38 CR39 CR40 CR41 CR42 CR43
-13
SW27-D SW27-C SW27-B SW27-A
USED ON
55A
TOLERANCES
2 PLACE DECIMAL .010
3 PLACE DECIMAL .005
UNLESS OTHERWISE SPECIFIED
SCALE
DRN 1-31-68
CKD 1-31-68
APP
BOONTON ELECTRONICS PARSIPPANY NEW JERSEY
SCHEMATIC
HIGH-SPEED RELAYS
(COMPUTESTER)
SH OF
BX5150-26-3



REVISIONS				
ZONE	REV.	DATE	SIG.	DESCRIPTION

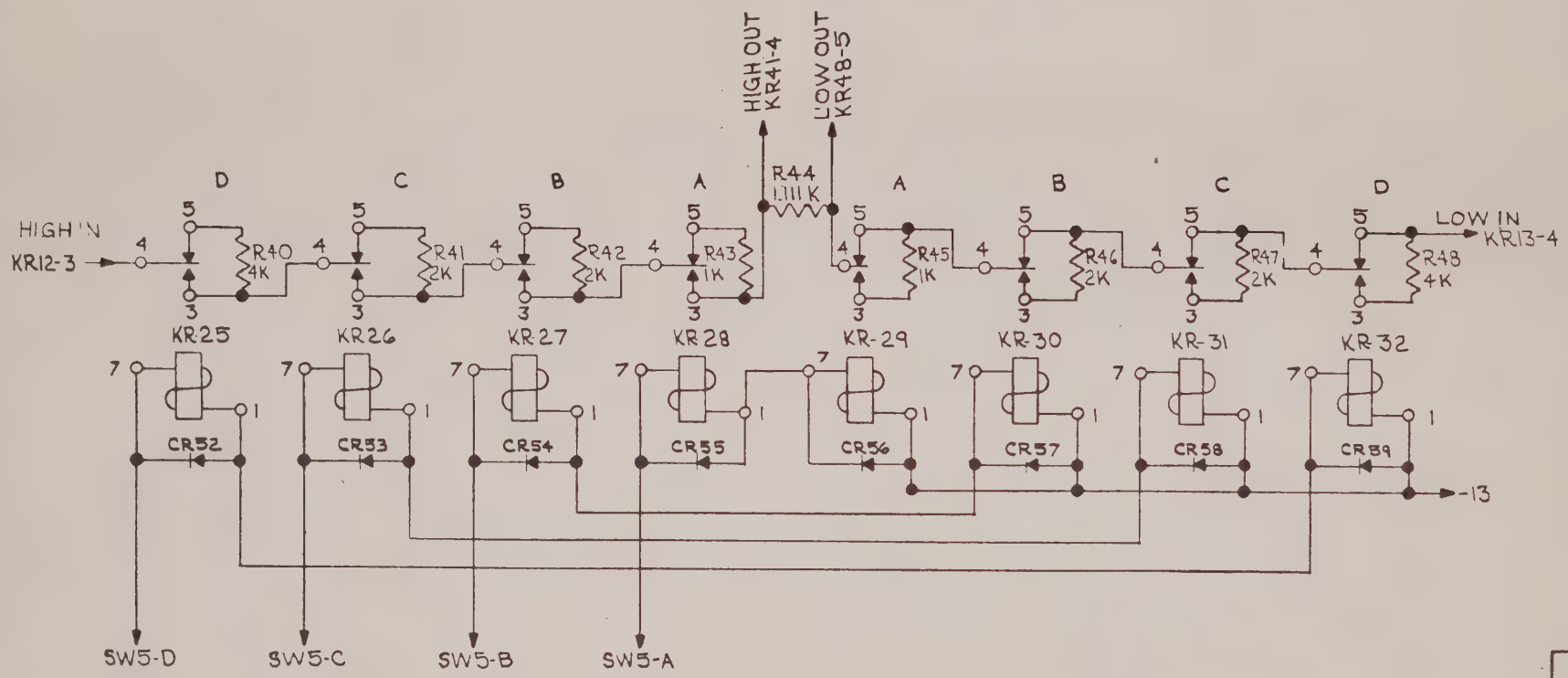
USED ON	TOLERANCES	
55A	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED	
	SCALE:	
	DRN	1-31-68
	CKD	1-31-68
	APP	

BOONTON ELECTRONICS PARSIPPANY NEW JERSEY

SCHEMATIC
LOW(-) TOL. RELAYS
(10%/STEP)

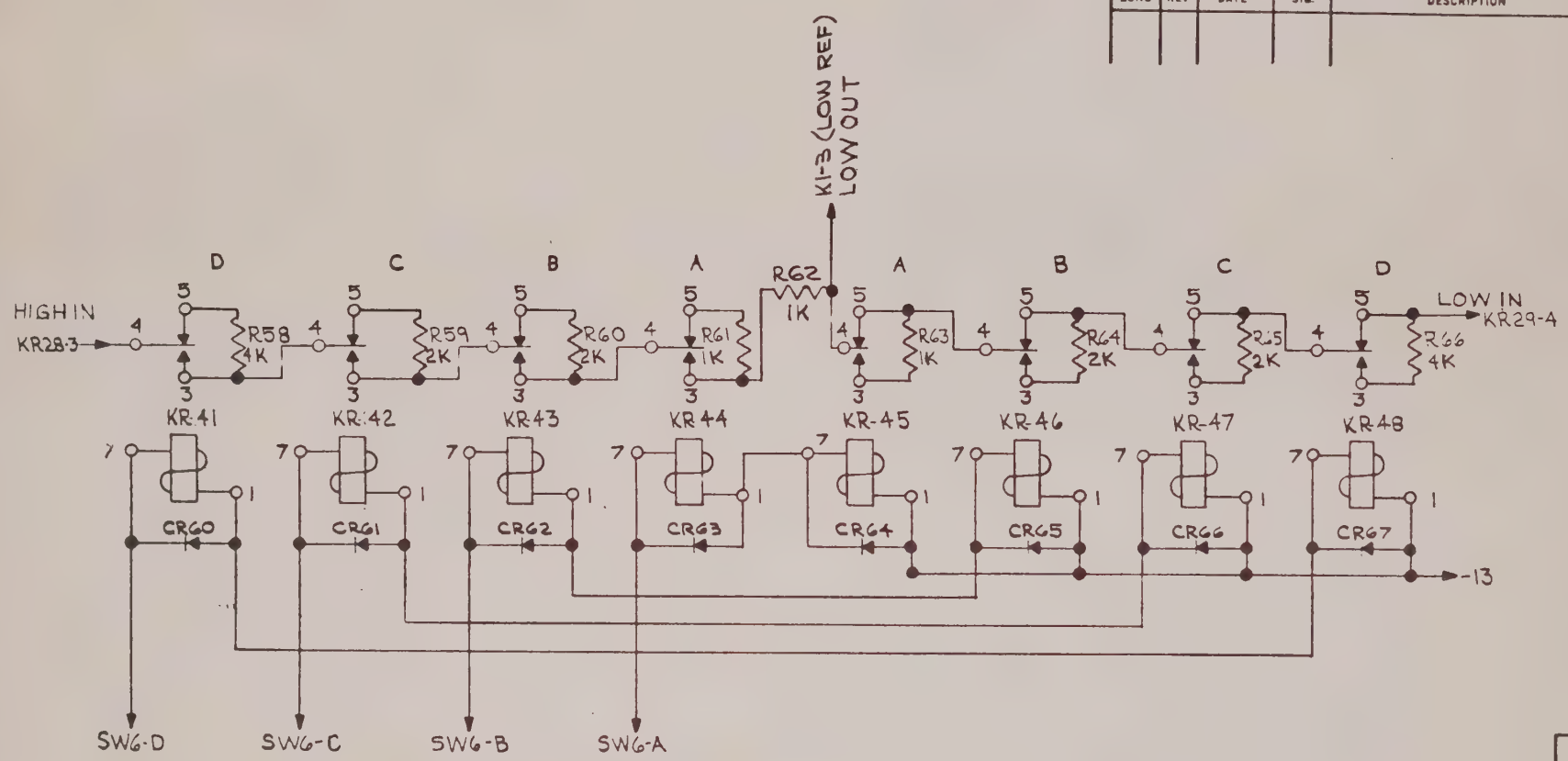
SH OF BX5150-26-4

REVISIONS M768				
ZONE	REV	DATE	SIG	DESCRIPTION

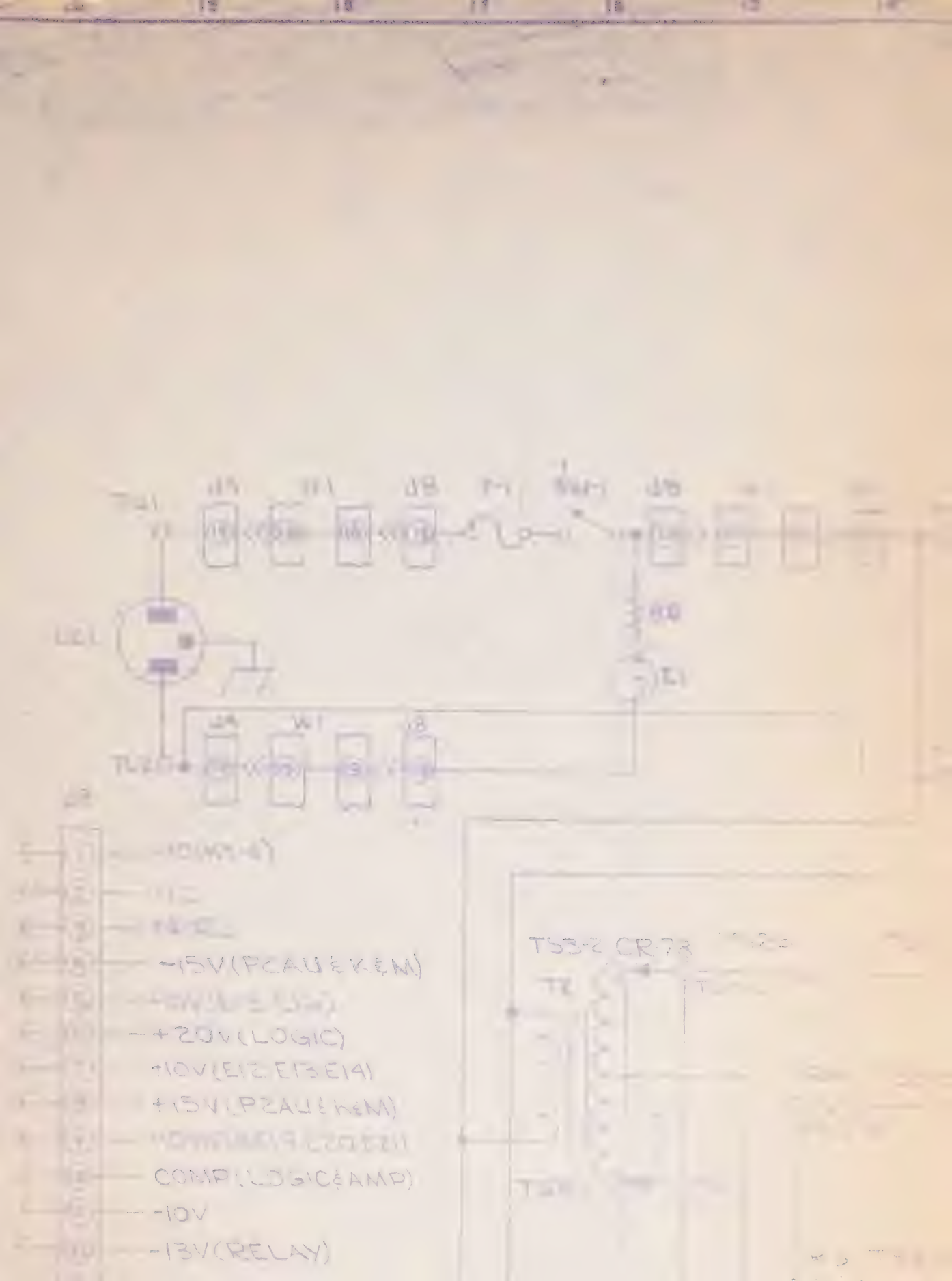


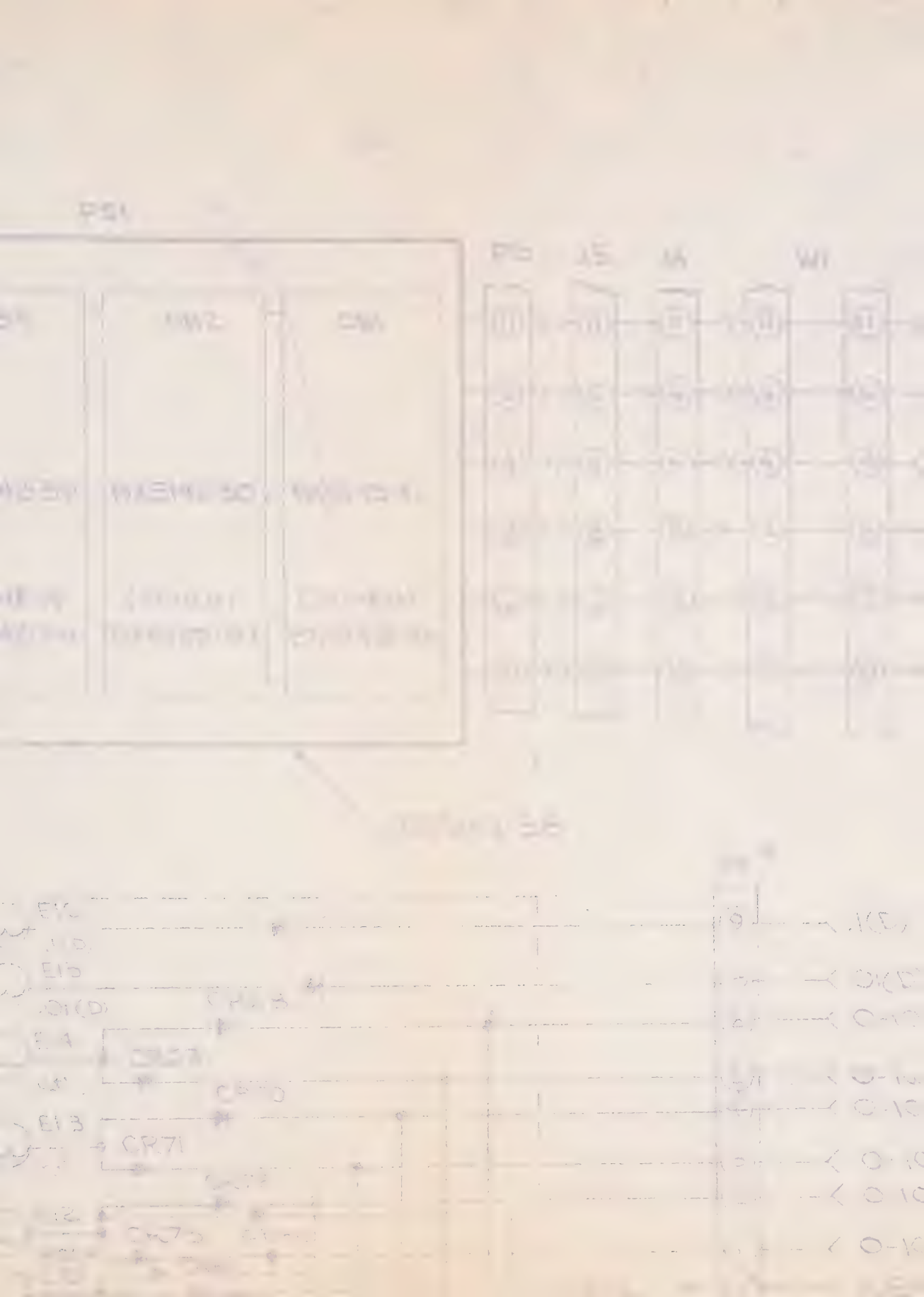
USED ON	TOLERANCES	BOONTON ELECTRONICS PARSIPPANY NEW JERSEY
55A	2 PLACE DECIMAL ±10 3 PLACE DECIMAL ±05 UNLESS OTHERWISE SPECIFIED	SCHEMATIC LOW (-) TOL. RELAYS (1%/STEP)
	SCALE	
	DRN 1-31-68	
	CKD 1-31-69	
	APP	SH OF BX5150-26-5

REVISIONS				M 7 68
ZONE	REV	DATE	SIG.	DESCRIPTION

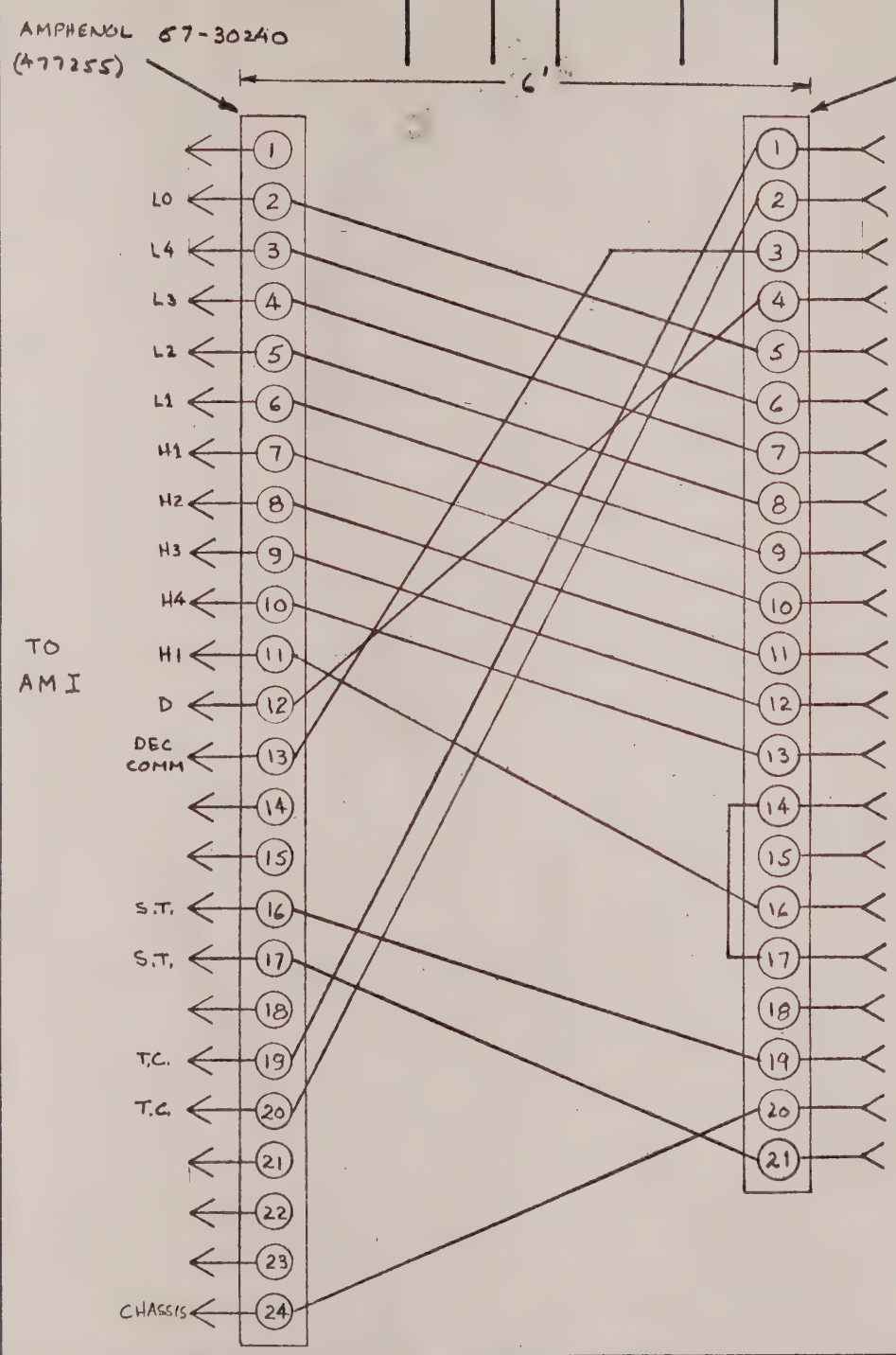


USED ON	TOLERANCES	BOONTON ELECTRONICS	PARSIPPANY NEW JERSEY
55A	2 PLACE DECIMAL ±.01 3 PLACE DECIMAL ±.005 UNLESS OTHERWISE SPECIFIED	SCHEMATIC LOW(-) TOL. RELAYS (0.1%/STEP)	
	SCALE		
	DRN [illegible] 1-31-68		
	CKD [illegible] 2-31-68		
	APP	SH OF	BX5150-26-6


-15V(PCAU & K & M)
+20V(LOGIC)
+10V(E12 E13 E14)
+15V(PCAU & K & M)
COMP(LOGIC & AMP)
-10V
-13V(RELAY)
TS3-2 CR73

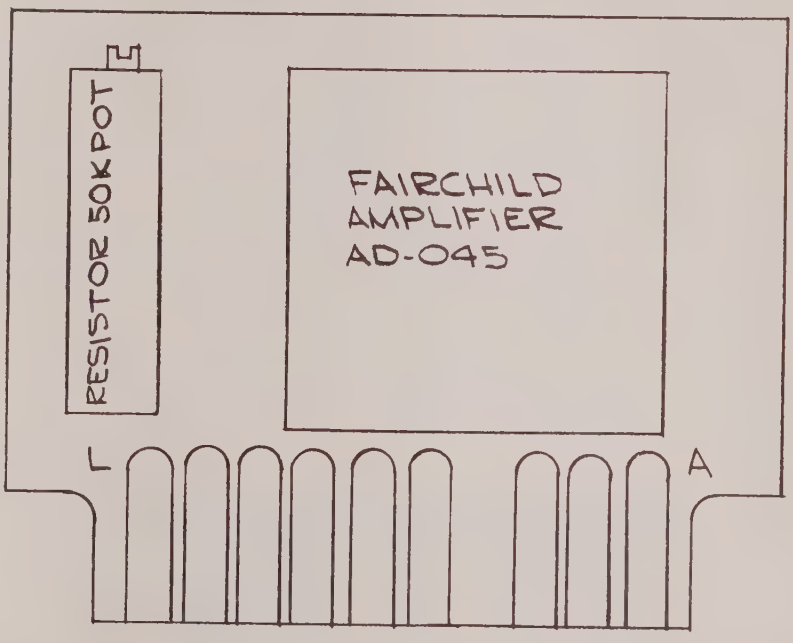


ZONE	REV.	DATE	SIG.	DESCRIPTION



USED ON	TOLERANCES	BOONTON ELECTRONICS CORPORATION — PARSIPPANY, NEW JERSEY	
	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED	INTERFACE CABLE AMI FEEDER TO MODEL 55B	
	SCALE:		
	DRN. NDS 4/2/73		
	CKD.		
	APP.	SH. OF	AX 5100 - 307

REVISIONS				
ZONE	REV.	DATE	SIG.	DESCRIPTION



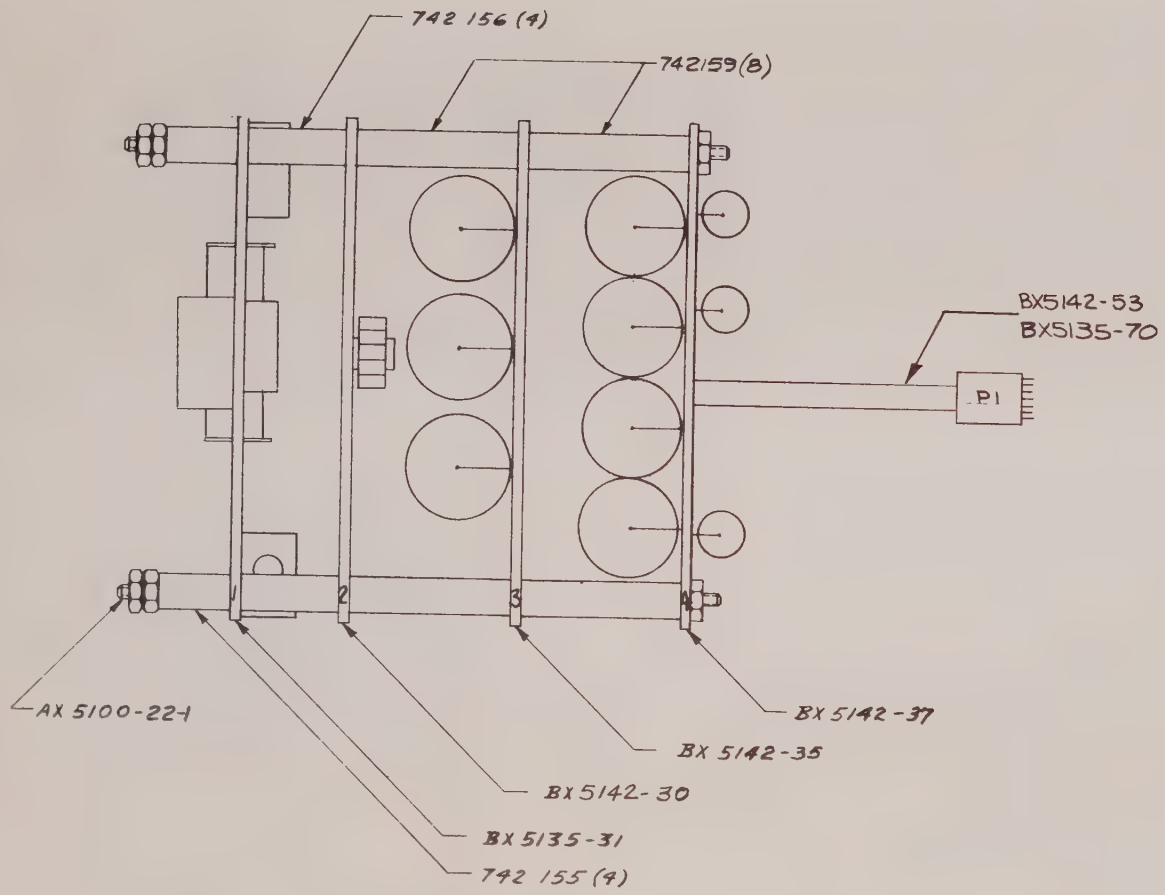
USED ON			TOLERANCES		
			2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED		
			SCALE:		
			DRN	DeHam	12/18/69
			CKD		
			APP		

BOONTON ELECTRONICS CORPORATION
PARSIPPANY
NEW JERSEY

AMP. BOARD COMP. LOC.

SH. OF

AX5100-164



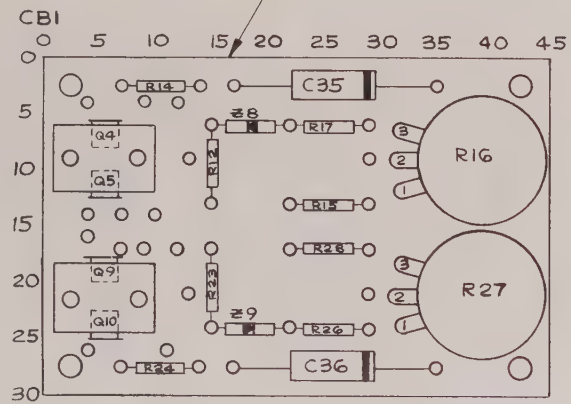
054006

M766 ISSUE M 7 67		
No. 1 768 CHANGE		
TOLERANCES:		
FRACTION ± 1/64, 2 PLACE DECIMAL .010, 3 PLACE DECIMAL .005, UNLESS OTHERWISE NOTED		
SCALE: FULL		
DRN	JLW	12-21-66
CKD	JLW	12-21-66
APP		
FIRST USED ON: 54A		
BOONTON ELECTRONICS CORP. MORRIS PLAINS, N. J.		
POWER SUPPLY ASS'Y		
BX 5142-38		

C.b. 5510 T3480

REVISIONS				
ZONE	REV.	DATE	SIG.	DESCRIPTION

TERMINAL BOARD BX 5135-30
PC BOARD BX 5135-31



Q4,Q5	2N1304
Q9,Q10	2N404A
R14,R24	3K-1/2W
R16,R27	2.5K-1/2W
R17,R26	5.6K-1/2W
R15,R28	7.5K-1/2W
R12,R23	1.2K-1/2W
Z8,Z9	1N821
C35,C36	.1μF-200V

NOTES:
1. Double sided lugs 510,025 (36).
2. Heat Sink (2) are [illegible]5-39. Slots to face outside of board.
3. Transistors Q4,5,9,10 to be wrapped with electrical tape No. 5 before insertion.

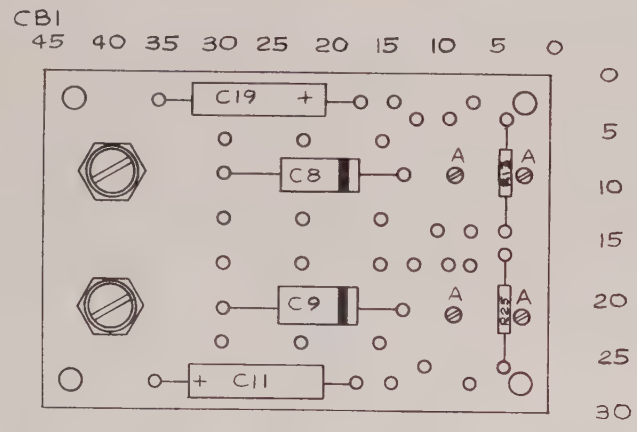
USED ON			TOLERANCES		
52B			2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED		
			SCALE:		
			DRN	CAB	9-20-67
			CKD	[illegible]	9-20-67
			APP		

BOONTON ELECTRONICS CORPORATION PARSIPPANY NEW JERSEY

TERM. BD ASSY
COMP LAYOUT-FRONT

SH. OF BX 5135-31-1

REVISIONS				M 7 69
ZONE	REV.	DATE	SIG.	DESCRIPTION



C11, C19	50μF-25V
C8, C9	1μF-200V
R13, R25	15K-1/2W

ITEM	DESCRIPTION	QTY
A	4-40 × 3/4 HEAT SINK	4
	MOUNTING SCREWS	

HOLE LEGEND

USED ON		
52B		

TOLERANCES
2 PLACE DECIMAL .010
3 PLACE DECIMAL .005
UNLESS OTHERWISE SPECIFIED

SCALE:

DRN	CAB	9-21-67
CKD		9-22-67
APP		

BOONTON ELECTRONICS CORPORATION
PARSIPPANY NEW JERSEY

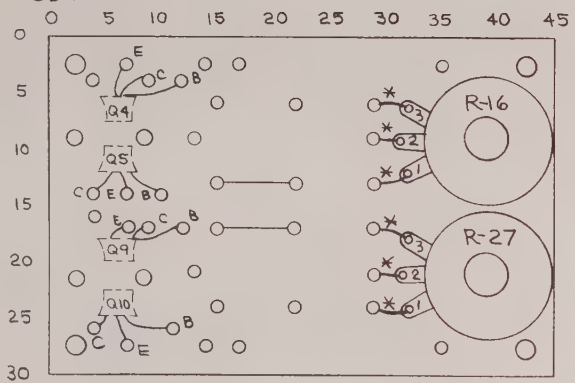
TERM. BD ASS'Y COMP LAYOUT-REAR

SH. OF

BX 5135-31-2

REVISIONS				
ZONE	REV.	DATE	SIG.	DESCRIPTION
	A		CAB	R'MV'D SLEEVING
	B	3-8-68	[illegible]	ADDED NOTE #2

CB-1



NOTES:

1. ALL JUMPERS TO BE #1[illegible] AWG SOLID TINNED WIRE UNLESS OTHERWISE SPECIFIED.
2. * DENOTES #22 AWG SOLID TINNED WIRE.

USED ON	TOLERANCES		
52B	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED		
	SCALE:		
	DRN	[illegible]	2-15-68
	CKD	JW	2-16-68
	APP		

BOONTON ELECTRONICS CORPORATION — PARSIPPANY NEW JERSEY

TERM. BD. ASS'Y
POINT TO POINT
JUMPERS-FRONT

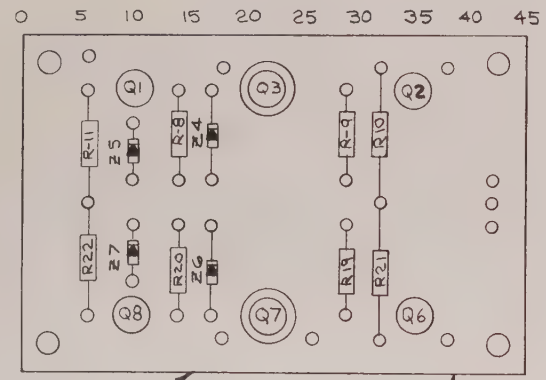
SH. OF

BX5135-31-3

B

A

REVISIONS				
ZONE	REV.	DATE	SIG.	DESCRIPTION



TERM. BD. (BX5135-32)
SCHEMATIC (BX5135-57)
TERM. BD. BX5135-32-1
FOR P/C

Q1 Q	2N404A
Q2 Q	2N1304
Q3	2N4000
Q	2N1039
R11 R21 R22	10K 1/2W
R9. R19	Ω 1 2W
R8. R20	1.2K 1/2W
R10	15K 1/2W
Z4. Z5. Z . Z7	1N45 A

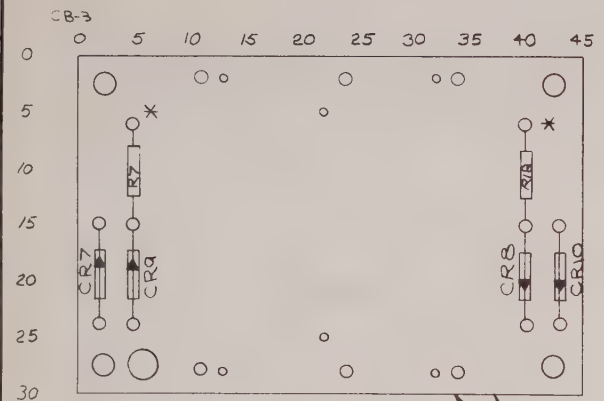
NOTE:

1. HEAT SINKS (2) ARE BIRTCHER 3AL-680-2R

054007

USED ON	TOLERANCES	BOONTON ELECTRONICS CORPORATION — PARSIPPANY NEW JERSEY
54A	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED	TERM. BD. ASS'Y COMPONENT LAYOUT- FRONT
	SCALE:	
	DRN 2-15-68	
	CKD 2-15-68	
	APP	SH. OF BX5142-30-1

REVISIONS ~ 768				
ZONE	REV.	DATE	SIG.	DESCRIPTION



DECK "C"

TERM. BD. (BX5135-34)
TERM BD BX5135-34-1
FOR P/C

CR7, CR8 CR9, CR10	1N2069
R7, R18	33Ω 1/2W

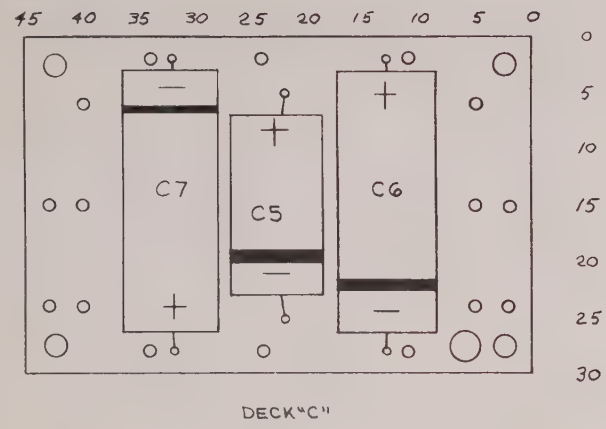
NOTE:
1. ✱ LUG FACES OUT FROM DRAWING.

054008

USED ON	TOLERANCES	BOONTON ELECTRONICS CORPORATION PARSIPPANY NEW JERSEY
54A	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED	TERM BD. ASS'Y COMPONENT LAYOUT- FRONT
	SCALE:	
	DRN 2-15-68	
	CKD 2-15-68	
	APP	SH. OF BX5142-35-1

REVISIONS M 768				
ZONE	REV.	DATE	SIG.	DESCRIPTION

CB-3



DECK "C"

C5	250uf 50V
C6, C7	150uf 150V

NOTE:
1. MOUNT CAPACITORS THROUGH HOLES AS SHOWN AND SOLDER WIRES TO LUG ON REVERSE SIDE.

054008

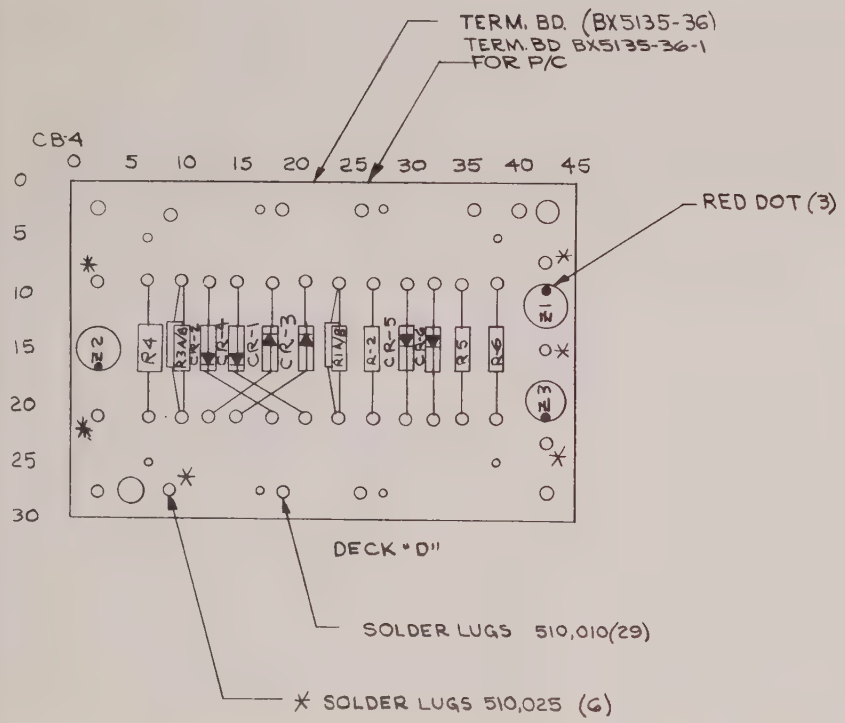
USED ON	TOLERANCES		
54A	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED		
	SCALE:		
	DRN	D Shuen	2-15-68
	CKD	[signature]	2-15-68
	APP		

BOONTON ELECTRONICS CORPORATION — PARSIPPANY NEW JERSEY

TERM. BD. ASS'Y COMPONENT LAYOUT REAR

SH. OF — BX5142-35-2

REVISIONS M 768				
ZONE	REV.	DATE	SIG.	DESCRIPTION
				M 769



Z1	1.5M 20Z10
Z2	1.5M 10Z10
Z3	1.5M 20Z10
R1A/B, R3A/B, R5	10Ω 1/2W
R2	1.5K 2W
R4	62Ω 5W
R6	1K 2W
CR1, CR2, CR3, CR4, CR5, CR6,	IN2069

054009

USED ON			TOLERANCES		
54A &	55A		2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED		
			SCALE:		
			DRN	[illegible]	11/18/68
			CKD		
			APP		

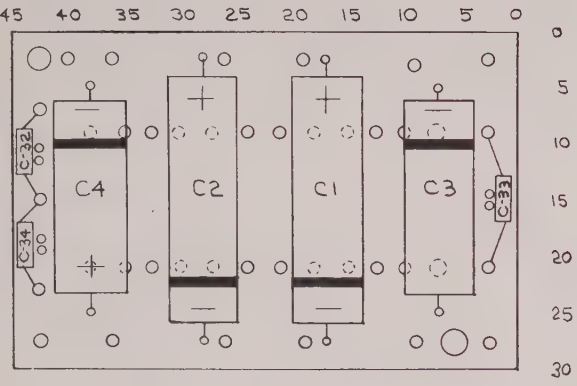
BOONTON ELECTRONICS CORPORATION — PARSIPPANY NEW JERSEY

TERM. BD. ASS'Y COMPONENT LAYOUT-FRONT

SH. OF BX5142-42-1

REVISIONS M 766				
ZONE	REV.	DATE	SIG.	DESCRIPTION
				M 769

CB-4



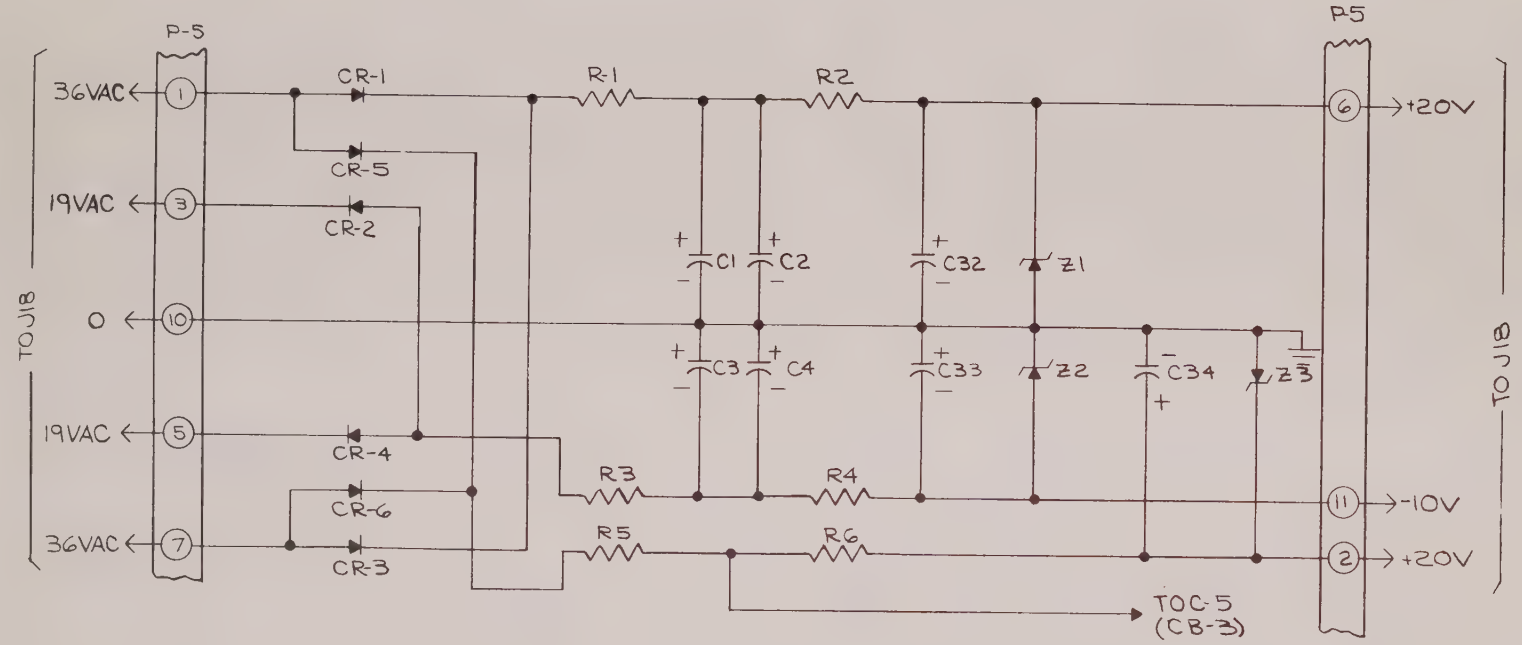
DECK "D"

C1. C2	150uf 150V
C3 C4	250uf 50V
C32. C33 C34	2000uu 500V

054009

USED ON			TOLERANCES	BOONTON ELECTRONICS CORPORATION	PARSIPPANY NEW JERSEY
54A&	55A		2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED	TERM. BD. ASS'Y COMPONENT LAYOUT-REAR	
			SCALE:		
			DRN 11/18/68		
			CKD	SH. OF	BX5142-42-2
			APP		

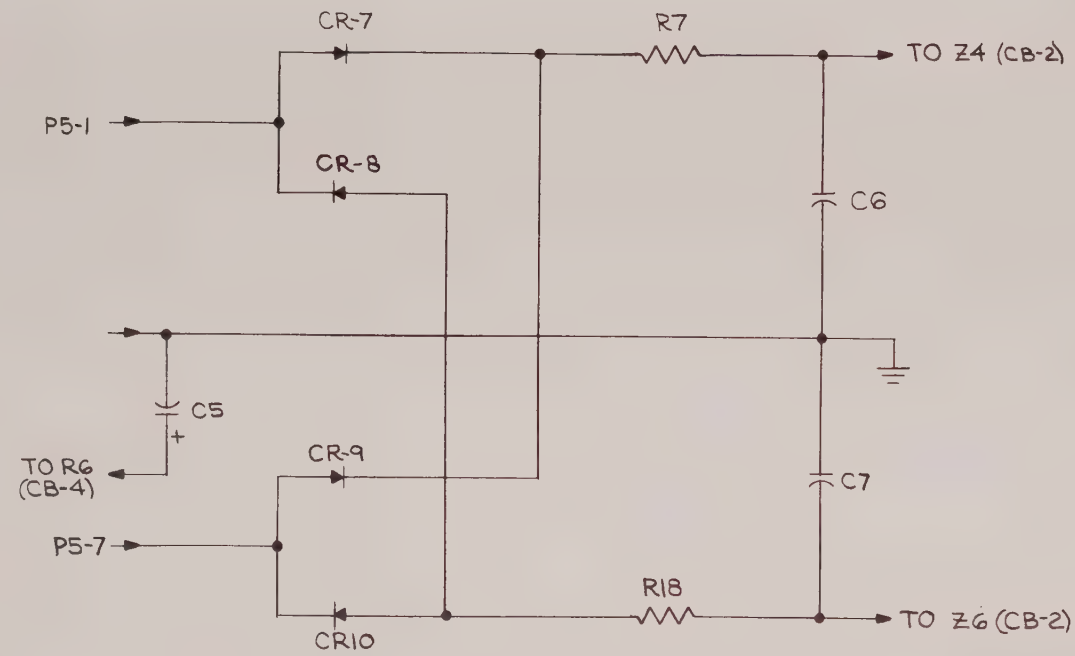
REVISIONS				
ZONE	REV.	DATE	SIG.	DESCRIPTION



DECK "D"

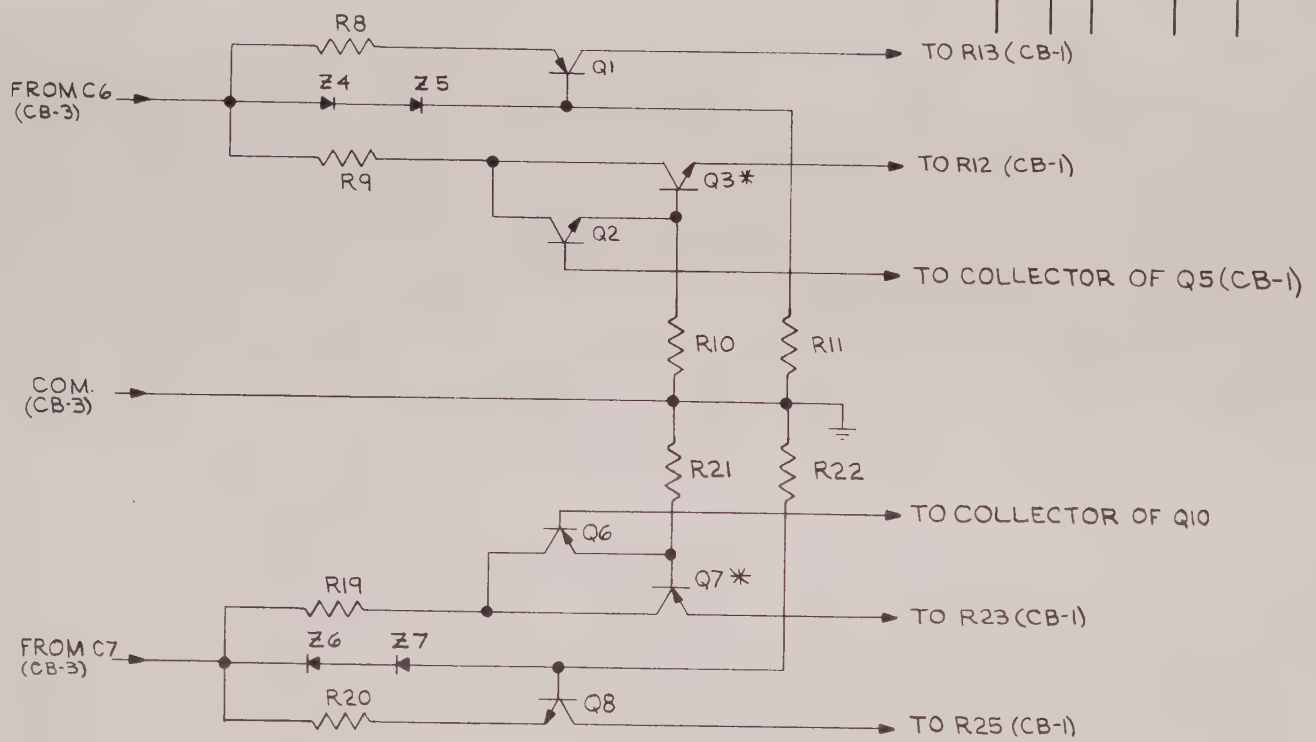
USED ON	TOLERANCES	BOONTON ELECTRONICS CORPORATION — PARSIPPANY NEW JERSEY
54A	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED	SCHEMATIC POWER SUPPLY ZENER-REG +20,-10,-12V
	SCALE:	
	DRN 2-23-68	
	CKD 2-23-68	
	APP	SH. BX5142-36 OF

REVISIONS				
ZONE	REV.	DATE	SIG.	DESCRIPTION



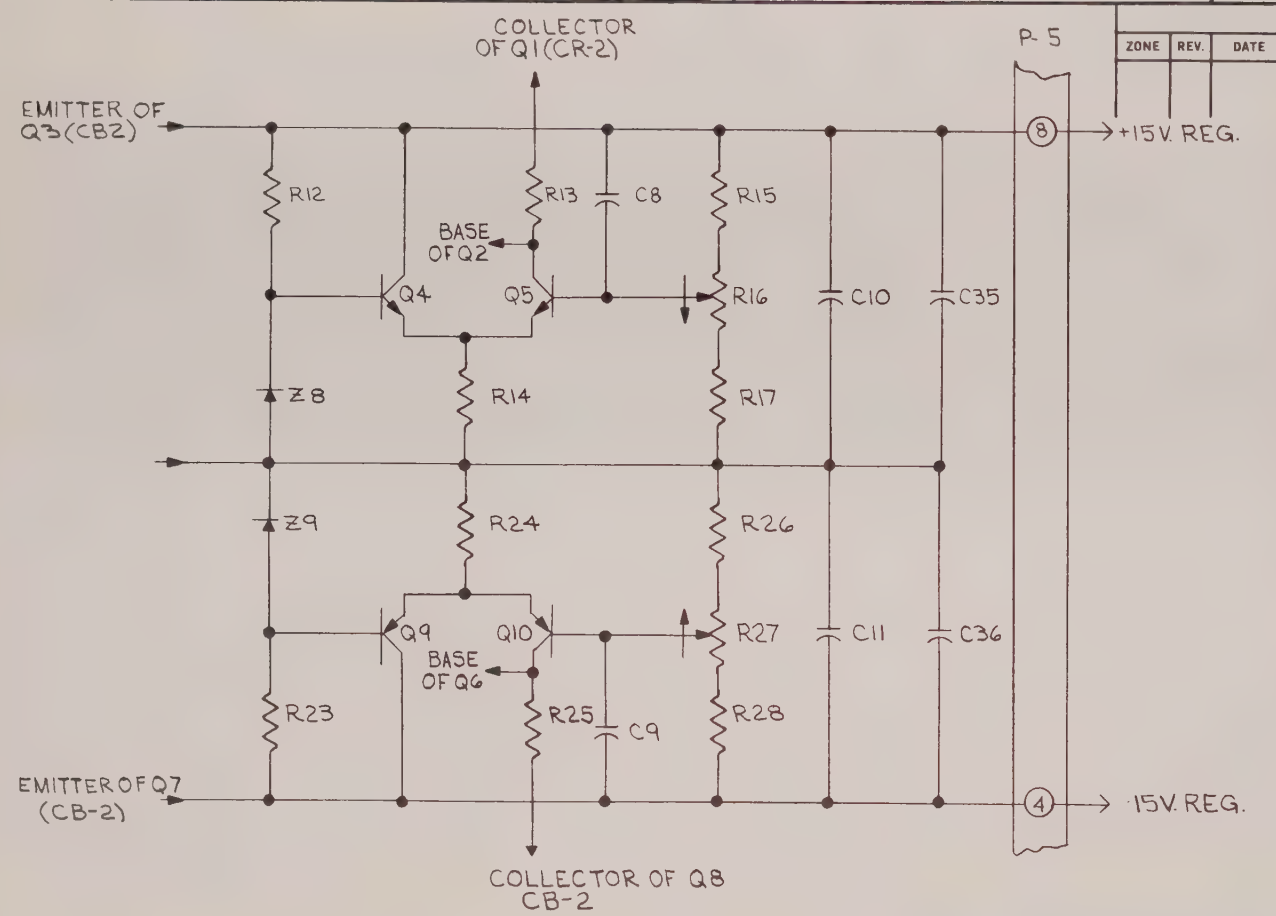
USED ON			TOLERANCES			BOONTON ELECTRONICS CORPORATION	PARSIPPANY NEW JERSEY
54A			2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED			SCHEMATIC POWER SUPPLY UNREG ±15V	
			SCALE:				
			DRN		2-19-68		
			CKD		2-19-68		
			APP			SH. OF	BX5142-34

REVISIONS				
ZONE	REV.	DATE	SIG.	DESCRIPTION



NOTE:
ASTERICK (*) DENOTE TRANSISTOR
TO BE USED WITH HEAT SINK.

USED ON	TOLERANCES	BOONTON ELECTRONICS CORPORATION — PARSIPPANY NEW JERSEY
52A	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED	SCHEMATIC POWER SUPPLY REG. ±15V
	SCALE:	
	DRN 2-8-68	
	CKD 2-12-68	
	APP	SH. OF BX5135-57



REVISIONS M 768

ZONE	REV.	DATE	SIG.	DESCRIPTION

DECK "A"

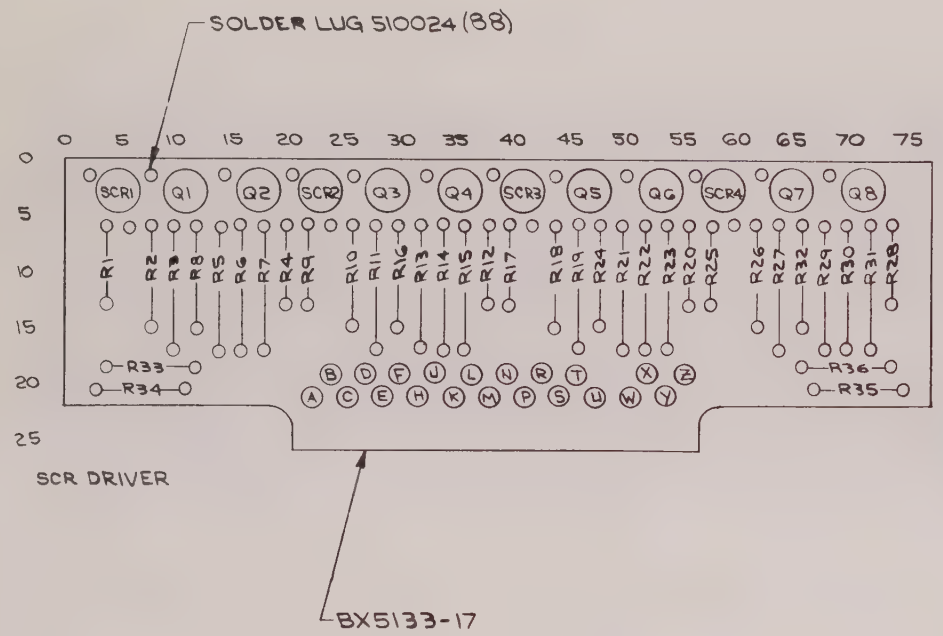
USED ON	TOLERANCES
52A	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED
	SCALE:
	DRN D. Nuem 2-9-68
	CKD [illegible] 2-12-68
	APP

BOONTON ELECTRONICS CORPORATION PARSIPPANY NEW JERSEY

SCHEMATIC
POWER SUPPLY AMP
±15V.

SH. OF BX5135-56

REVISIONS				
ZONE	REV.	DATE	SIG.	DESCRIPTION
	A			ADDED NOTE #1 * 7 69
	B			ADDED R33-R36 1-15-68



Q1 THRU Q8	2N404A
SCR1 THRU SCR4	2N1779
R4,R12,R20,R28	5.1K 1/2W
R3,R11,R19,R27	10K 1/2W
R5,R6,R7,R13,R14, R15,R21,R22,R23,R29, R30,R31,R35,R34,R35, R33	30K 1/2W
R2,R8,R10,R16,R18, R24,R26,R32	220K 1/2W
R1,R9,R17,R25	1K 1/2W

NOTE:
1. ALL COMPONENTS TO BE MOUNTED ON BOTTOM OF TERMINAL.

USED ON	TOLERANCES		
52-5A	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED		
	SCALE:		
	DRN	3-12-68	
	CKD	3-13-68	
	APP		

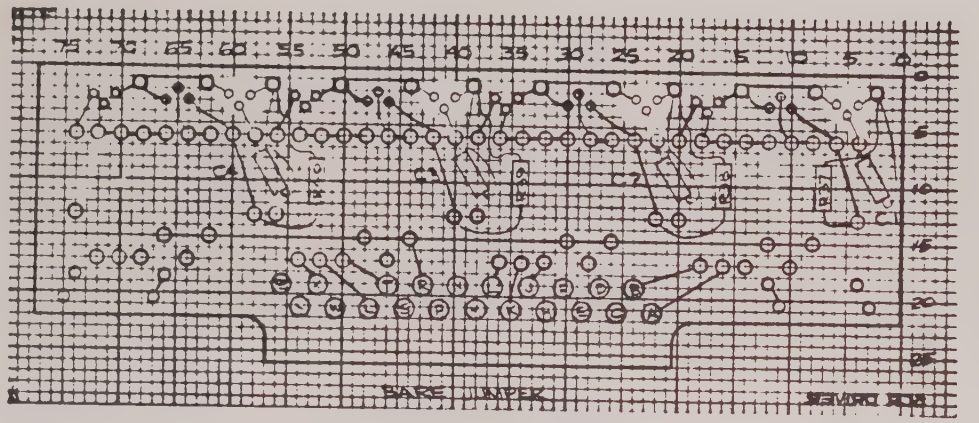
BOONTON ELECTRONICS CORPORATION PARSIPPANY NEW JERSEY

COMP LOC
SCR DRIVER

SH. 1 OF 1 BX5133-18-1 B

REVISIONS M 7 67 M766				
ZONE	REV	DATE	SIG	DESCRIPTION
	A			ADDED R33-R36. 1-15-68
	B	10-10-68		ADDED R37-R40

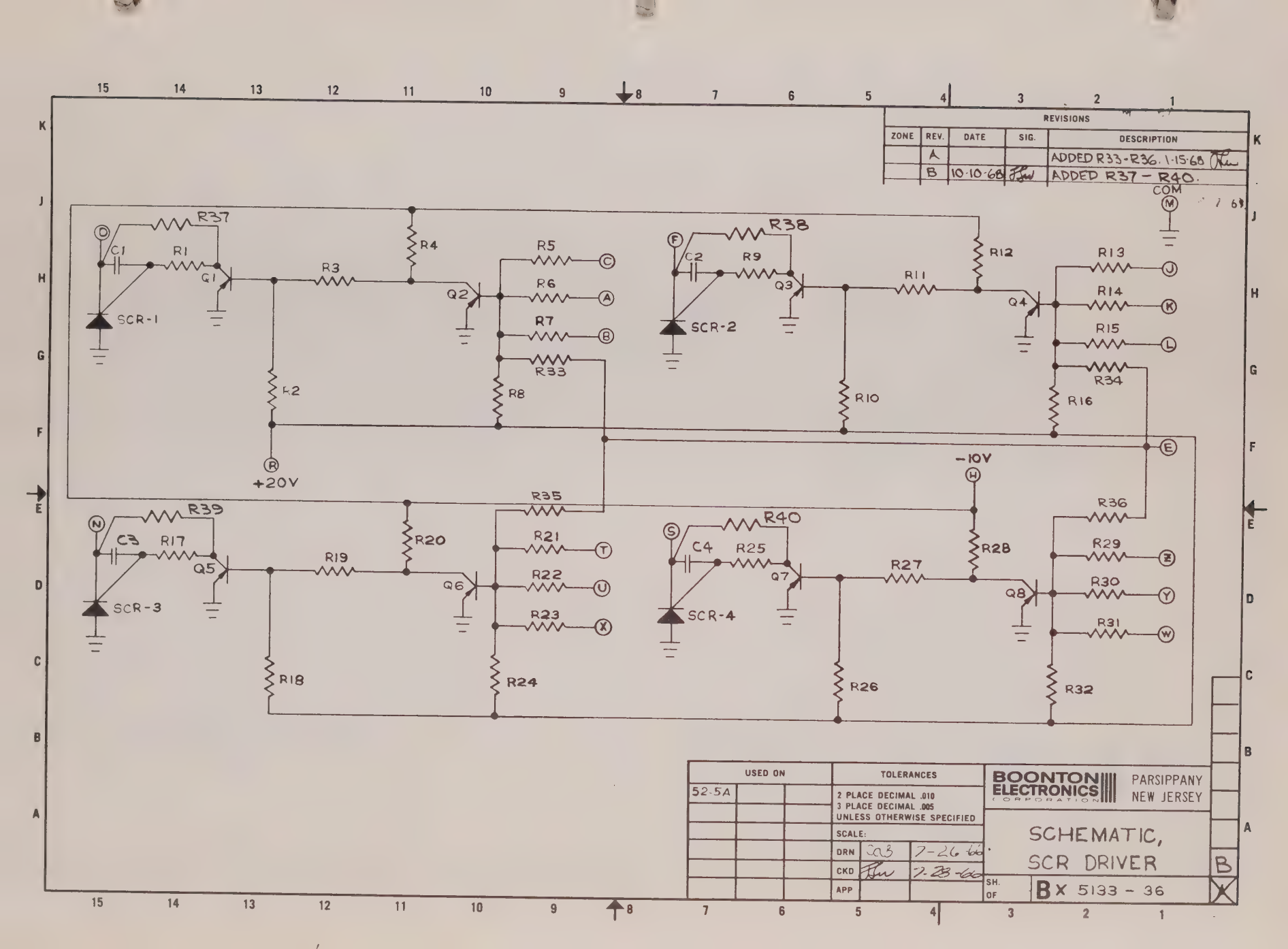
M 7 69



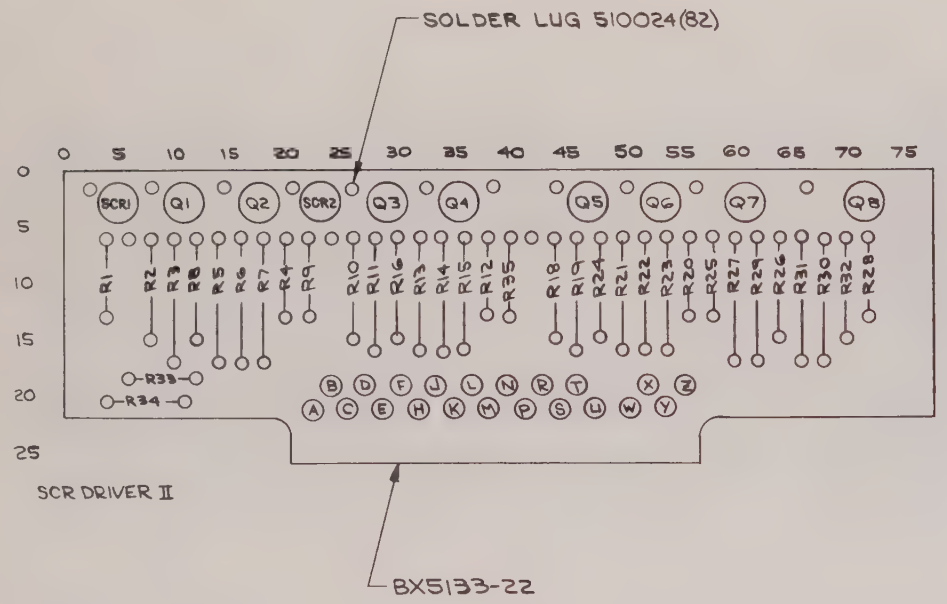
C1 THRU C4	.1μF 200V
R37-R40	5.1K 1/2W

NOTE:
1. ALL JUMPERS #24 AWG SOLID TINNED WIRE.

USED ON	TOLERANCES	BOONTON ELECTRONICS	PARSIPPANY NEW JERSEY
52-5A	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED	SCR DRIVER WIRING REAR	
	SCALE		
	DRN 5-10-66		B
	CKD	SH OF BX5133-18-2	X
	APP		


REVISIONS
ZONE | REV. | DATE | SIG. | DESCRIPTION
A | | | ADDED R33-R36. 1-15-68
B | 10-10-68 | | ADDED R37 - R40.
R37
C1
R1
Q1
SCR-1
R3
R4
R5
R6
R7
R33
R8
Q2
R2
+20V
R38
C2
R9
Q3
SCR-2
R11
R12
Q4
R10
COM
R13
R14
R15
R34
R16
-10V
R35
R39
C3
R17
Q5
SCR-3
R19
R20
R21
R22
R23
Q6
R18
R24
R40
C4
R25
Q7
SCR-4
R27
R28
Q8
R26
R36
R29
R30
R31
R32
USED ON
52-5A
TOLERANCES
2 PLACE DECIMAL .010
3 PLACE DECIMAL .005
UNLESS OTHERWISE SPECIFIED
SCALE:
DRN 7-26-66
CKD 7-28-66
APP
BOONTON ELECTRONICS CORPORATION
PARSIPPANY NEW JERSEY
SCHEMATIC, SCR DRIVER
SH. OF
B X 5133 - 36
B

REVISIONS				
ZONE	REV.	DATE	SIG.	DESCRIPTION
	B	3-13-68		ADDED NOTE #1



Q1 THRU Q8	2N404A SELECTED
SCR1, SCR2	2N1595
F4, F12, F2.	5.1K 1/2W
F3, F11, F19	10K 1/2W
F5, F6, F7, R13, F14, R15, F21, R22, R23, F27, R29, F30, R31, R33, F34, R35	30K 1/2W
R2, F8, R10, R16, R18, R24, R26, R32	220K 1/2W
R1, R9	1K 1/2W
R25, R28	3K 1/2W

NOTE:

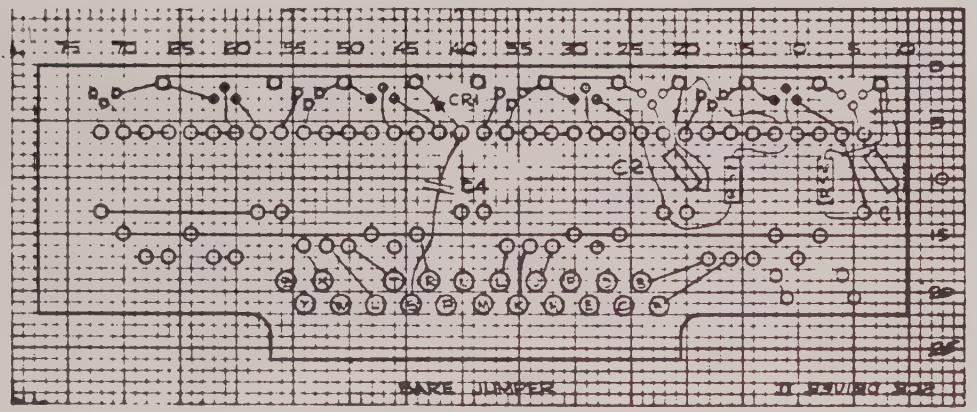
1. ALL COMPONENTS TO BE MOUNTED ON BOTTOM OF TERMINAL.

USED ON	TOLERANCES	BOONTON ELECTRONICS CORPORATION	PARSIPPANY NEW JERSEY
52-5A	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED	COMP LOC. SCR DRIVER II	B
	SCALE:		
	DRN 3-13-68		
	CKD 3-13-68		
	APP	SH. OF BX5133-23-1	A

REVISIONS					M766
ZONE	REV	DATE	SIG	DESCRIPTION	
	B	10-10-68		ADDED R36 & R37.	

M 7 67

M 7 68



C1, C2	.1μF 200V
CR1	IN456A
C4	.022μF 200V
R36, R37	5.1K 1/2W

NOTE:
1. ALL JUMPERS #24 AWG SOLID TINNED WIRE.

USED ON	TOLERANCES		
52-5A	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED		
	SCALE:		
	DRN	5-13-66	
	CKD		
	APP		

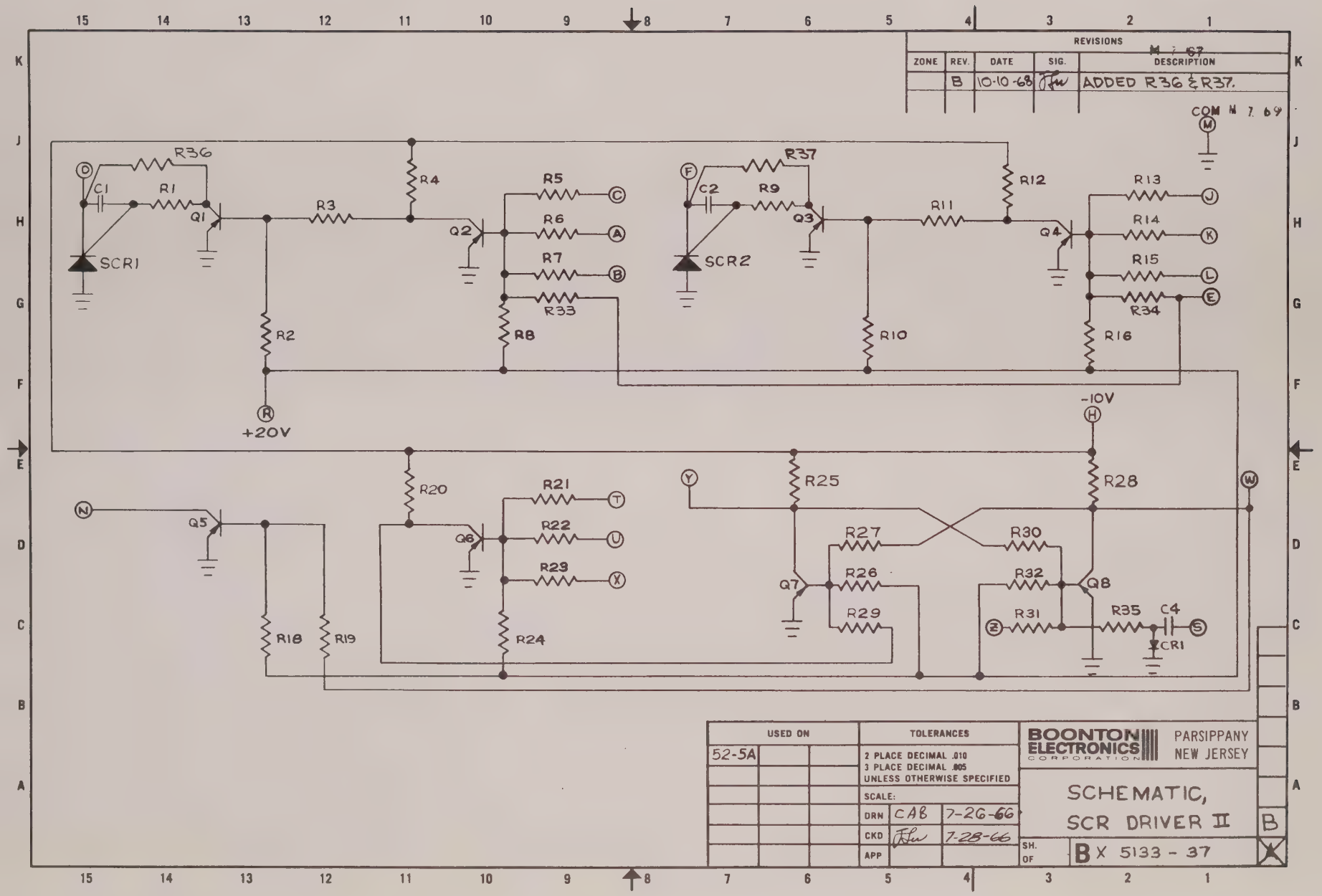
BOONTON ELECTRONICS PARSIPPANY NEW JERSEY

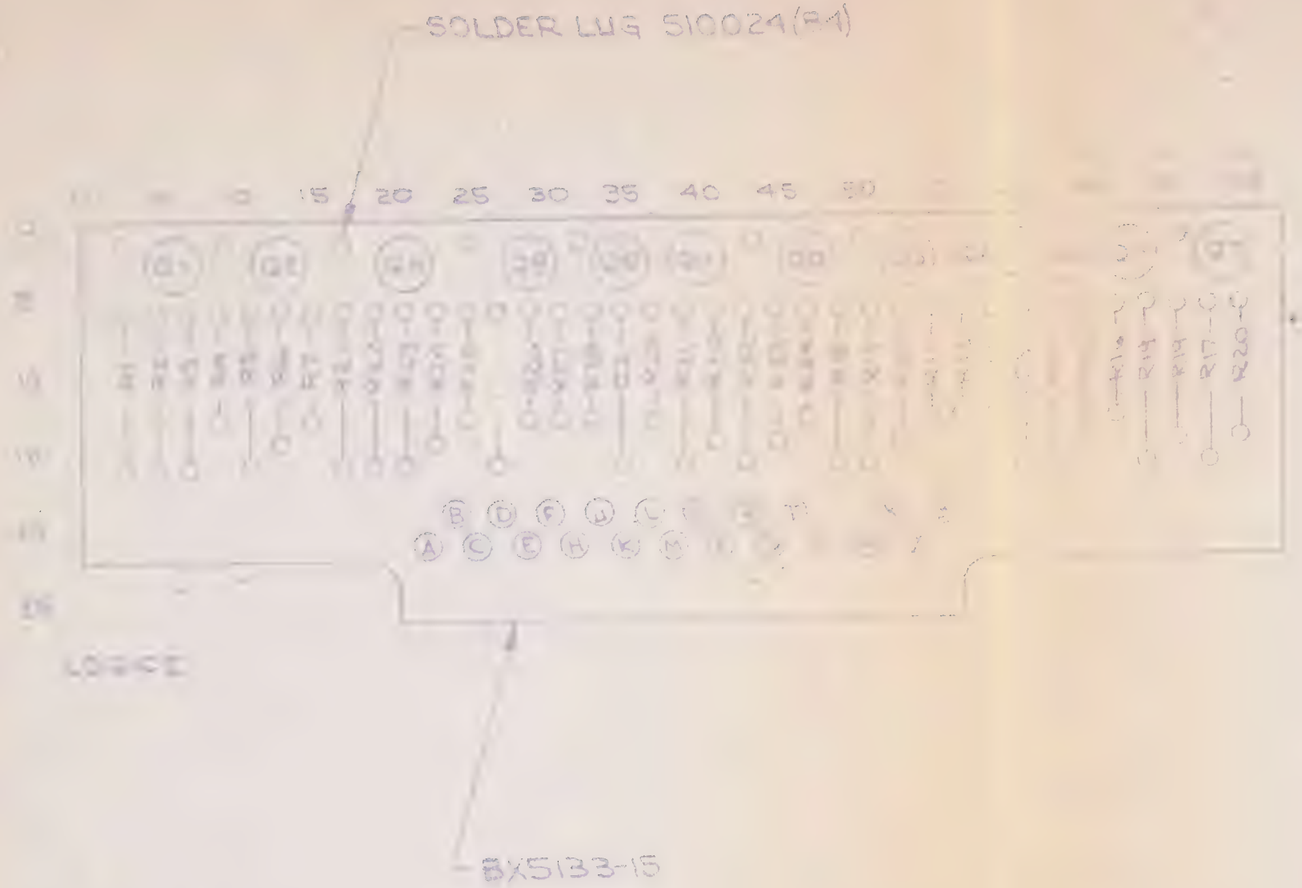
SCR DRIVER II
WIRING REAR

SH 1 OF 1

B X5133-23-2

B


REVISIONS
ZONE | REV. | DATE | SIG. | DESCRIPTION
B | 10-10-68 | ADDED R36 & R37.
COM M 7 69
R36
C1
R1
Q1
SCR1
R3
R4
R5
R6
R7
R33
Q2
R8
R2
+20V
R37
C2
R9
Q3
SCR2
R11
R12
Q4
R13
R14
R15
R34
R16
R10
-10V
R20
R21
R22
R29
Q6
R24
Q5
R18
R19
R25
R28
R27
R30
R26
R29
Q7
Q8
R32
R31
R35
C4
CR1
USED ON
52-5A
TOLERANCES
2 PLACE DECIMAL .010
3 PLACE DECIMAL .005
UNLESS OTHERWISE SPECIFIED
SCALE:
DRN CAB 7-26-66
CKD 7-28-66
APP
BOONTON ELECTRONICS CORPORATION
PARSIPPANY NEW JERSEY
SCHEMATIC, SCR DRIVER II
SH. OF
B X 5133 - 37
B

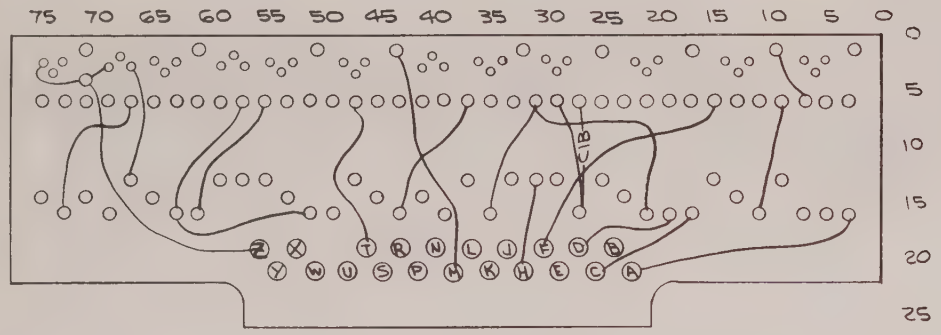


Q	
Q	
Q1 THRU Q12	
R1	
R1,2,3,5,8,9.14,17,21, 22,23,31,32	1/2W
R4,7,11,16,25,27,29, 34	1/2W
R6,10, 15,19,20,24,30,33	1/2W
R12,28	1/2W
R26	1/2W
R18	1/2W
R13	1/2W

USED ON	TOLERANCES	BOONTON ELECTRONICS
	2 PLACE DECIMAL ±10 3 PLACE DECIMAL ±5 UNLESS OTHERWISE SPECIFIED	
	SCALE	COMP LOG LOGIC III
	DRN	
	CHK	

REVISIONS				
ZONE	REV.	DATE	SIG.	DESCRIPTION
	A	3/21/69		ADDED C1B

M 7 69



INSULATED JUMPER

LOGIC I

C1B	.022 uf @ 200V	

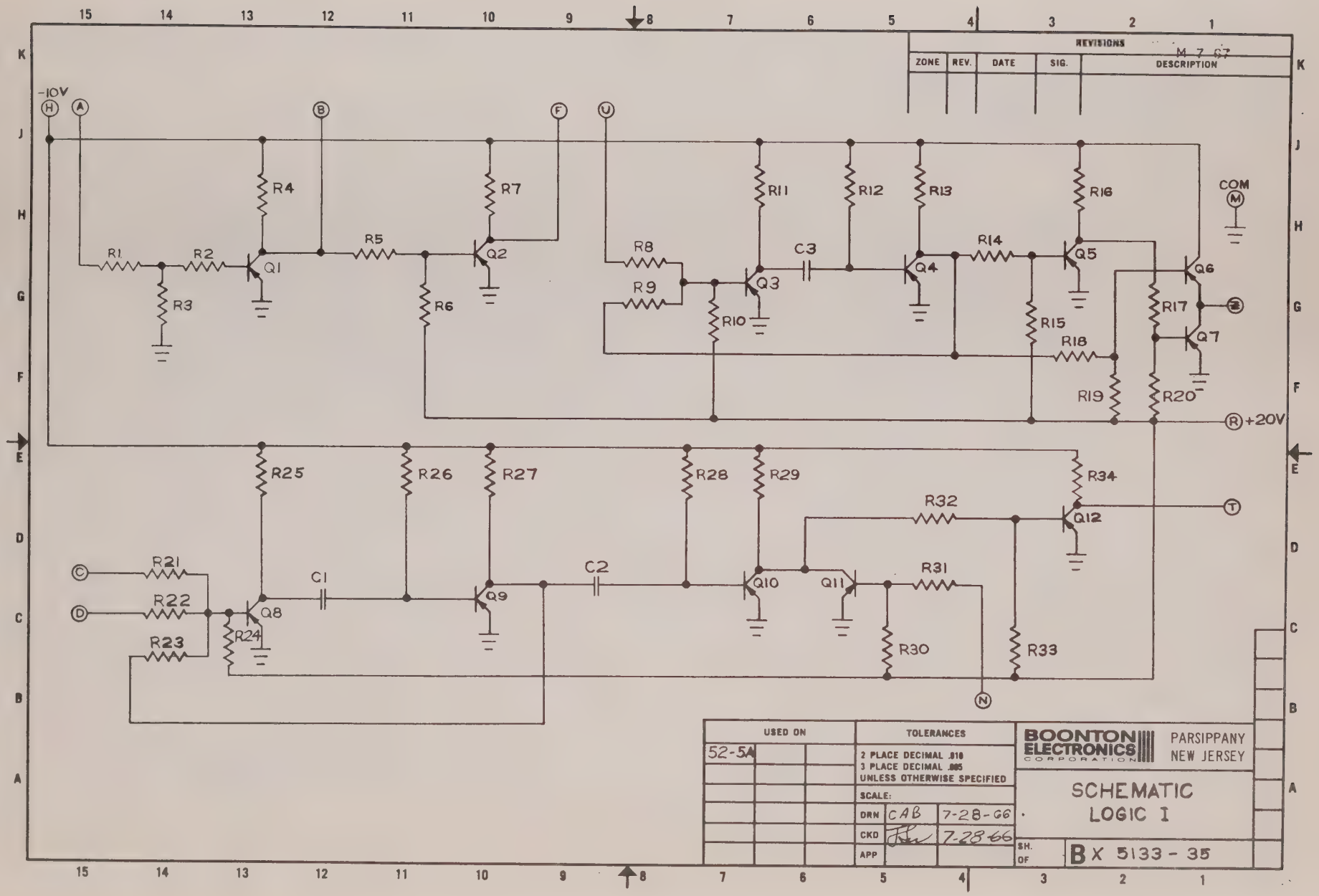
NOTES:
1) ALL JUMPERS #24 AWG SOLID TINNED WIRE.
2) ALL SLEEVING #22 AWG TEFLON.

USED ON			TOLERANCES		
525A			2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED		
			SCALE:		
			DRN	DEEN	9/10/68
			CKD		9-10-68
			APP		3-11-69

BOONTON ELECTRONICS CORPORATION PARSIPPANY NEW JERSEY

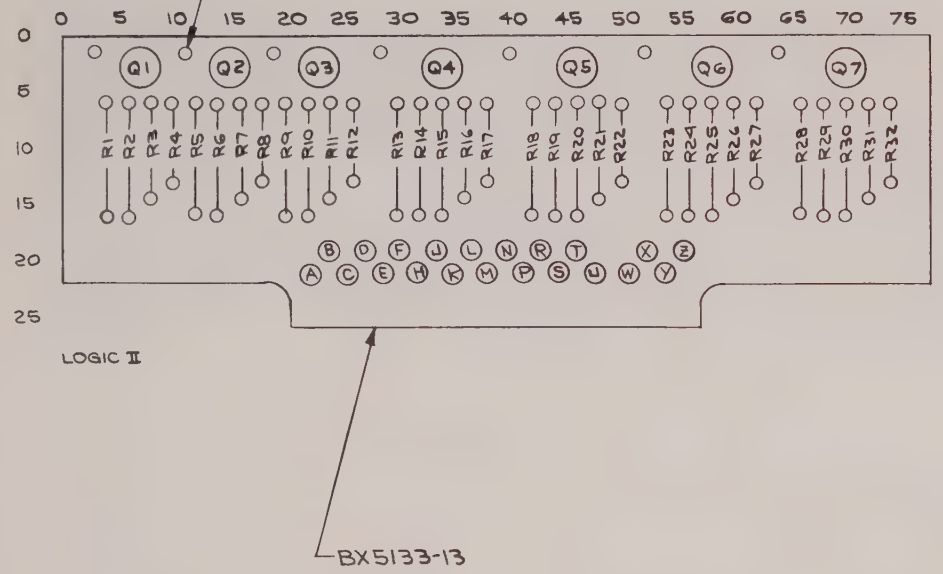
LOGIC I
WIRING REAR

SH. OF BX5133-16-3 A


REVISIONS
ZONE | REV. | DATE | SIG. | DESCRIPTION
M 7 67
-10V
H
A
B
F
U
R1
R2
R3
Q1
R4
R5
R6
Q2
R7
R8
R9
R10
Q3
R11
C3
R12
Q4
R13
R14
Q5
R15
R16
R17
R18
R19
Q6
Q7
R20
COM
M
+20V
R
R21
R22
R23
R24
Q8
C1
R25
R26
Q9
R27
C2
R28
Q10
Q11
R29
R30
R31
R32
R33
Q12
R34
T
N
USED ON
52-5A
TOLERANCES
2 PLACE DECIMAL .010
3 PLACE DECIMAL .005
UNLESS OTHERWISE SPECIFIED
SCALE:
DRN CAB 7-28-66
CKD 7-28-66
APP
BOONTON ELECTRONICS CORPORATION
PARSIPPANY NEW JERSEY
SCHEMATIC
LOGIC I
SH. OF
BX 5133 - 35

REVISIONS				
ZONE	REV.	DATE	SIG.	DESCRIPTION
	A	3-12-68		ADDED NOTE #1
	B	9/18/68	[illegible]	MADE R4 3K 1/2W

M 7 69

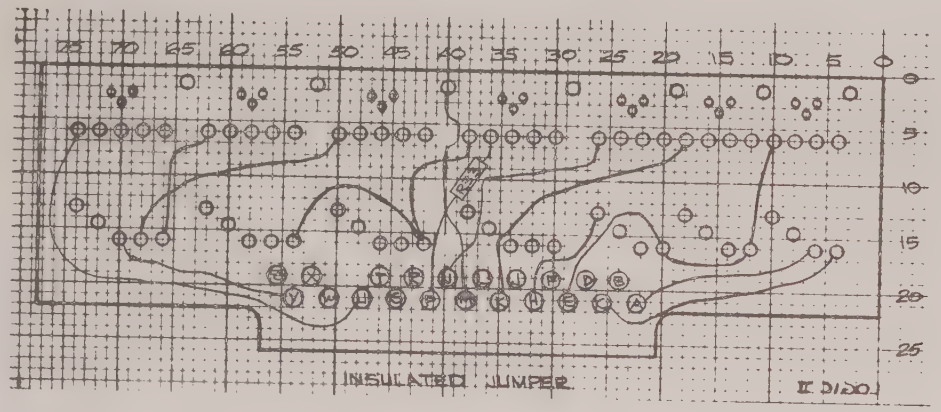


Q1 THRU Q7	2N404A
R1,R2,R5,R6,R9, R10,R13,R14,R17, R18,R19,R20,R23, R24,R25,R28,R29, R30	30K 1/2W
R3,R7,R11,R16, R21,R26,R31	220K 1/2W
R8,R12,R17, R22,R27,R32	2.1K 1/2W
R4	3K 1/2W

NOTE:
1. ALL COMPONENTS TO BE MOUNTED ON BOTTOM OF TERMINAL.

USED ON	TOLERANCES		BOONTON ELECTRONICS CORPORATION PARSIPPANY NEW JERSEY
52-5A	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED		COMP LOC LOGIC II
	SCALE:		B
	DRN [illegible]	3-13-68	
	CKD [illegible]	3-13-68	
	APP		SH. OF BX5133-14-1 A

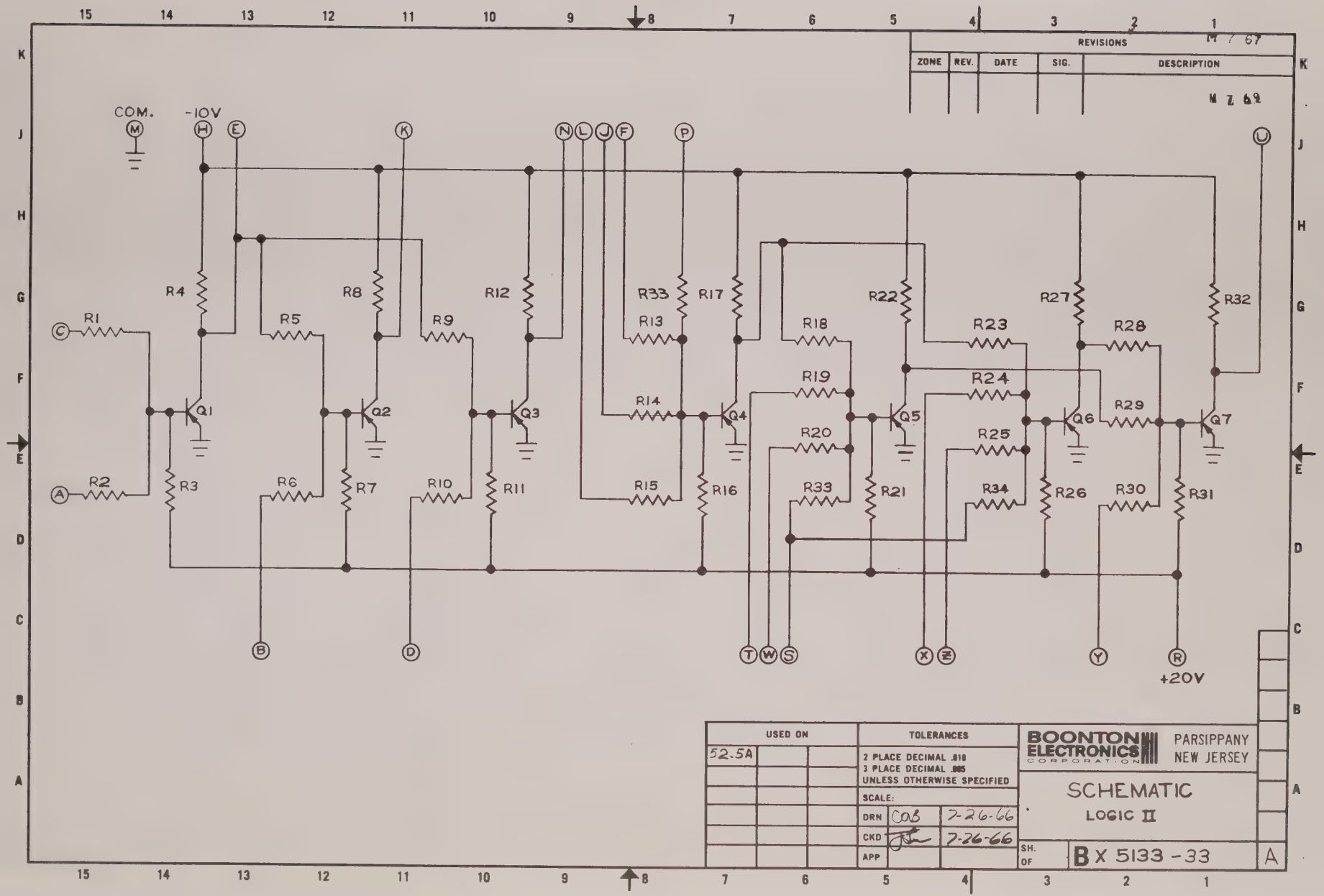
REVISIONS				M 7 67 M766
ZONE	REV	DATE	SIG	DESCRIPTION



R33	30K 1/2W

NOTES:
1. All jumpers #24 AWG solid tinned wire.
2. All sleeving #22 AWG teflon.

USED ON	TOLERANCES	BOONTON ELECTRONICS	PARSIPPANY NEW JERSEY
52-5A	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED	LOGIC II WIRING REAR	
	SCALE		
	DRN FLW 5-6-66		
	CKD		
	APP	SH OF BX5133-14-3	A


REVISIONS
ZONE | REV. | DATE | SIG. | DESCRIPTION
M 7 67
M 7 69
COM.
-10V
+20V
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
R16
R17
R18
R19
R20
R21
R22
R23
R24
R25
R26
R27
R28
R29
R30
R31
R32
R33
R34
Q1
Q2
Q3
Q4
Q5
Q6
Q7
USED ON
52-5A
TOLERANCES
2 PLACE DECIMAL .010
3 PLACE DECIMAL .005
UNLESS OTHERWISE SPECIFIED
SCALE:
DRN CAB 7-26-66
CKD 7-26-66
APP
BOONTON ELECTRONICS CORPORATION
PARSIPPANY NEW JERSEY
SCHEMATIC
LOGIC II
SH. OF
B X 5133-33
A

--SOLDER LUG .510-24 (11

QTY	REV	ZONE	ECN	DESCRIPTION

Q1 THRU Q10	2N4264
R2,4,18	220K 1/2W
R10,13,14,23 & 21	10K 1/2W
R1,3,7,8,17,20,25, 26,27,28,30	10K 1/2W
R5,6,11,12, 15,16, 19,22,24	5.1K 1/2W
C1A, C5A	.1uf 200V
CR1, CR3	1N456A
C2,C3,C6,C7	.1uf 200V

1. ALL COMPONENTS TO BE MOUNTED ON BOTTOM OF MANUAL.

055014

UNLESS OTHERWISE SPECIFIED	TOLERANCES	BOONTON ELECTRONICS
		DELAY X

RELAY

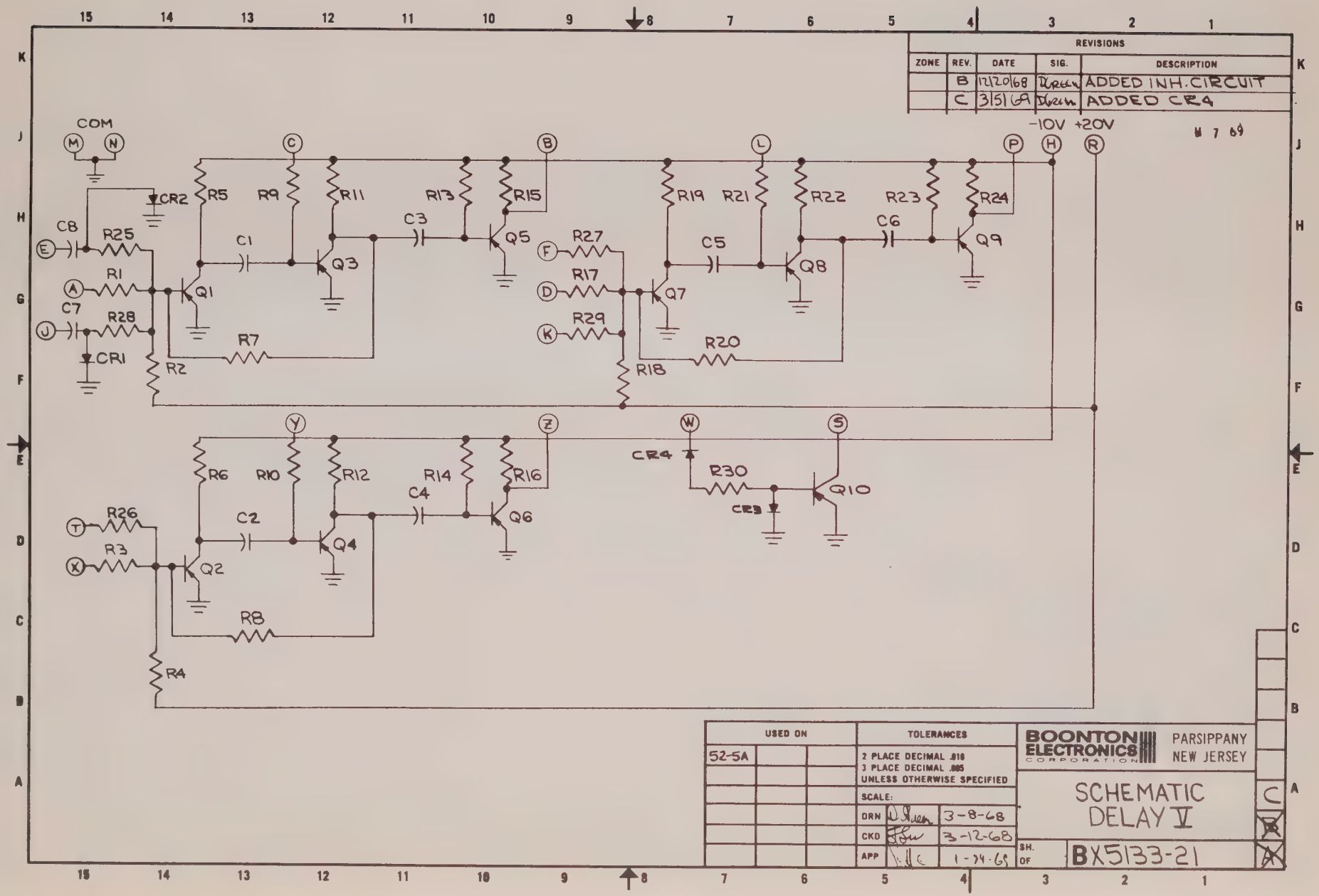
C6,C56	.1uf	200V	
C7,C8	.033µf	200V	
CR3,CR4	IN456A		
R29	22K 1/2W		

055019

BOONTON ELECTRONICS

DELAY Z

B 55019 Z0-2



REVISIONS				
ZONE	REV.	DATE	SIG.	DESCRIPTION
	B	12/20/68		ADDED INH. CIRCUIT
	C	3/5/69		ADDED CR4

USED ON	TOLERANCES		
52-5A	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED		
	SCALE:		
	DRN		3-8-68
	CKD		3-12-68
	APP		1-24-69

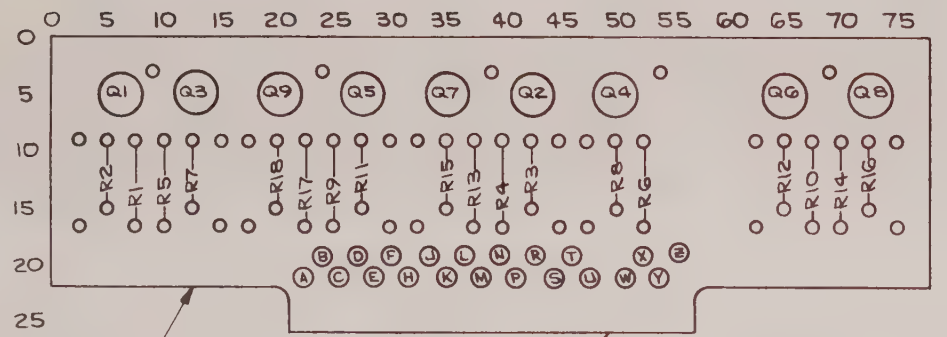
BOONTON ELECTRONICS CORPORATION
PARSIPPANY NEW JERSEY

SCHEMATIC
DELAY V

SH. OF BX5133-21

C

REVISIONS				
ZONE	REV.	DATE	SIG.	DESCRIPTION
				# 7 69



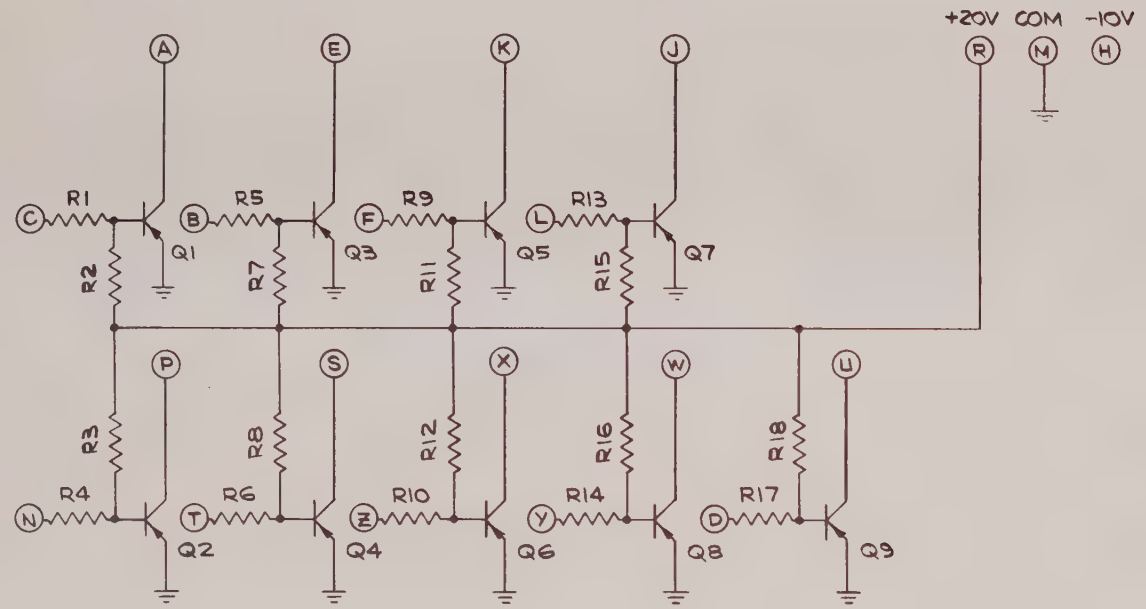
SELECTED	Q1 thru Q9	2N404A
	R1, R4, R5, R6, R9, R10, R13, R14, R17	10K 1/2W
	R2, R3, R7, R8, R11, R12, R15, R16, R18	220K 1/2W

USED ON	TOLERANCES		
S2-4B	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED		
	SCALE:		
	DRN	CAB	1-4-68
	CKD		1-4-68
	APP		

BOONTON ELECTRONICS CORPORATION — PARSIPPANY NEW JERSEY

COMP LOC DRIVER II

SH. OF — BX5124-118-1



M 7 57

ISSUE M766

No.	CHANGE

TOLERANCES:

FRACTION ± 1/64,
2 PLACE DECIMAL .010,
3 PLACE DECIMAL .005,
UNLESS OTHERWISE NOTED

SCALE:

DRN	JRL	10-26-65
CKD		
APP		

FIRST USED ON:

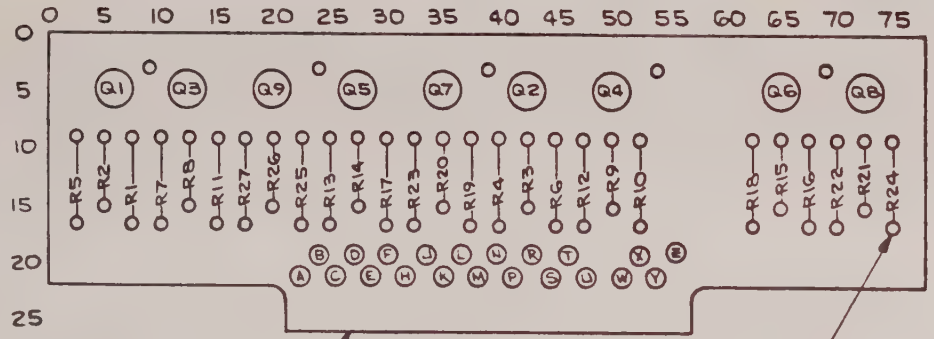
52-4B

BOONTON ELECTRONICS CORP.
MORRIS PLAINS, N. J.

SCHEMATIC
DRIVER II
P/C BOARD

BX5124-117

REVISIONS				
ZONE	REV	DATE	SIG.	DESCRIPTION
				M 7. 65



R1, R7, R13, R19, R4, R10, R16, R22, R25	30K 1/2W
R5, R11, R17, R23, R6, R12, R18, R24, R27	3K 1/2W
R2, R8, R14, R20, R3, R9, R15, R21, R26	220K 1/2W
Q1 - Q9	2N404A

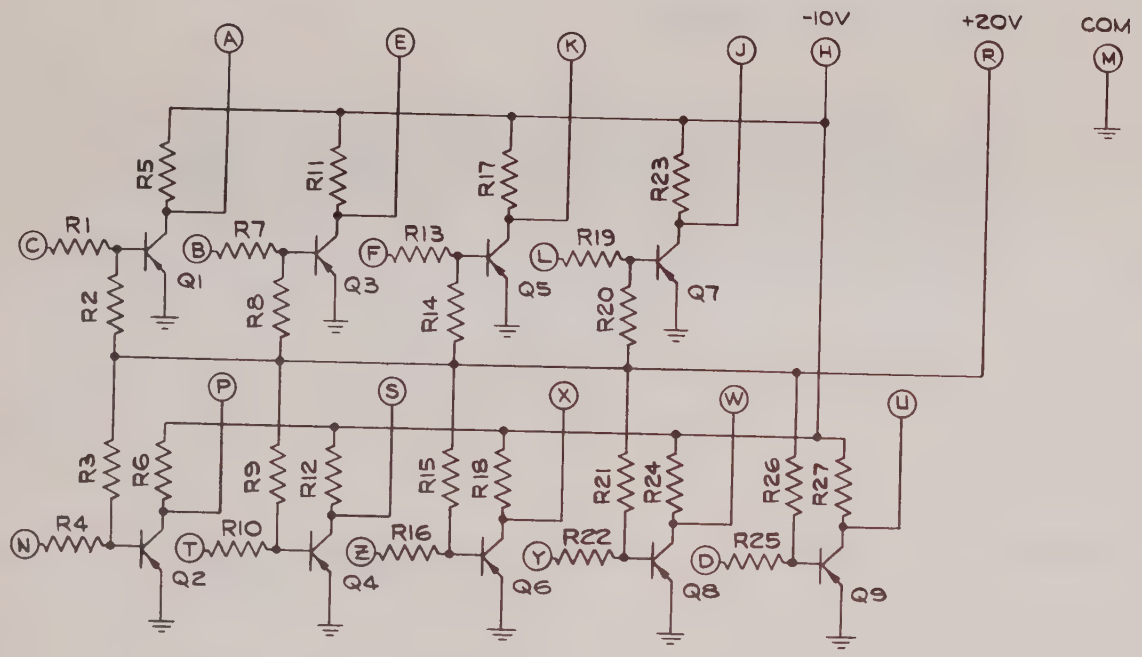
USED ON	TOLERANCES		
S2-4B	2 PLACE DECIMAL ±10 3 PLACE DECIMAL ±05 UNLESS OTHERWISE SPECIFIED		
	SCALE:		
	DRN CAB	1-16-68	
	CKD RW	1-16-69	
	APP		

BOONTON ELECTRONICS CORPORATION
PARSIPPANY NEW JERSEY

COMP LOC
INVERTER

SH. OF

BX5124-55-1



M765 ISSUE M766

No.	CHANGE M 7 67

TOLERANCES:

FRACTION ± 1/64,
2 PLACE DECIMAL .010,
3 PLACE DECIMAL .005,
UNLESS OTHERWISE NOTED

SCALE:

DRN	JSW	2-23-65
CKD	Bile	3/8/65
APP		

FIRST USED ON:

52-4B

BOONTON ELECTRONICS CORP.
MORRIS PLAINS, N. J.

SCHEMATIC INVERTER

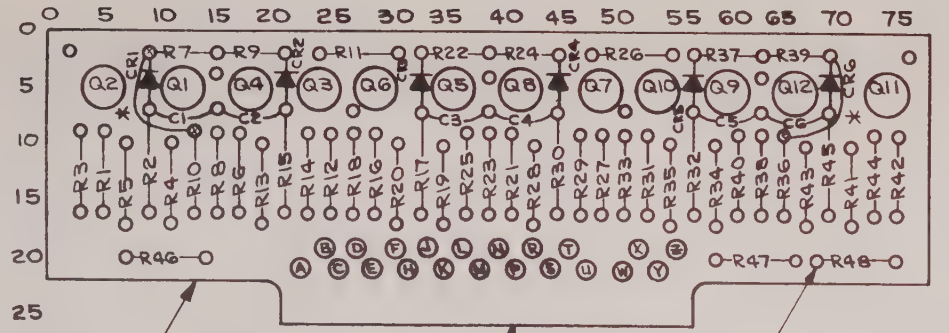
BX5124-56

C.B. 5810 T3480

REVISIONS				
ZONE	REV.	DATE	SIG.	DESCRIPTION
	A	1-11-68		ADDED NOTE *1
	B	11/26/68	[illegible]	ADDED 2 INSULATED WIRES
	C	12/13/69	[illegible]	CAP. TO 500V

M Z 69.

ASTERISK (*) DENOTES INSULATED WIRE ON REVERSE SIDE OF BOARD



TERM. BD BX5124-48
TERM. BD. CX5124-48-1&2
FOR P/C

SOLDER LUG 510024(97)

R4, R5, R11, R13, R19, R20, R26, R28, R34, R35, R41, R43	5.1K 1/2W
R1, R6, R8, R10, R14, R16, R21, R23, R25, R29, R31, R36, R38, R40, R44, R46, R47, R48	30K 1/2W
R2, R3, R7, R9, R12, R15, R17, R18, R22, R24, R27, R30, R32, R33, R37, R39, R42, R45	220K 1/2W
Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q9, Q10, Q11, Q12	2N404A
CR1, CR2, CR3, CR4, CR5, CR6	1N456A
C1, C2, C3, C4, C5, C6	2000 pF 500V

NOTE:
1. ALL COMPONENTS TO BE MOUNTED ON BOTTOM OF TERMINAL.

USED ON	TOLERANCES		
52-48	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED		
	SCALE:		
	DRN CAB	1-4-67	
	CKD [illegible]	1-10-67	
	APP		

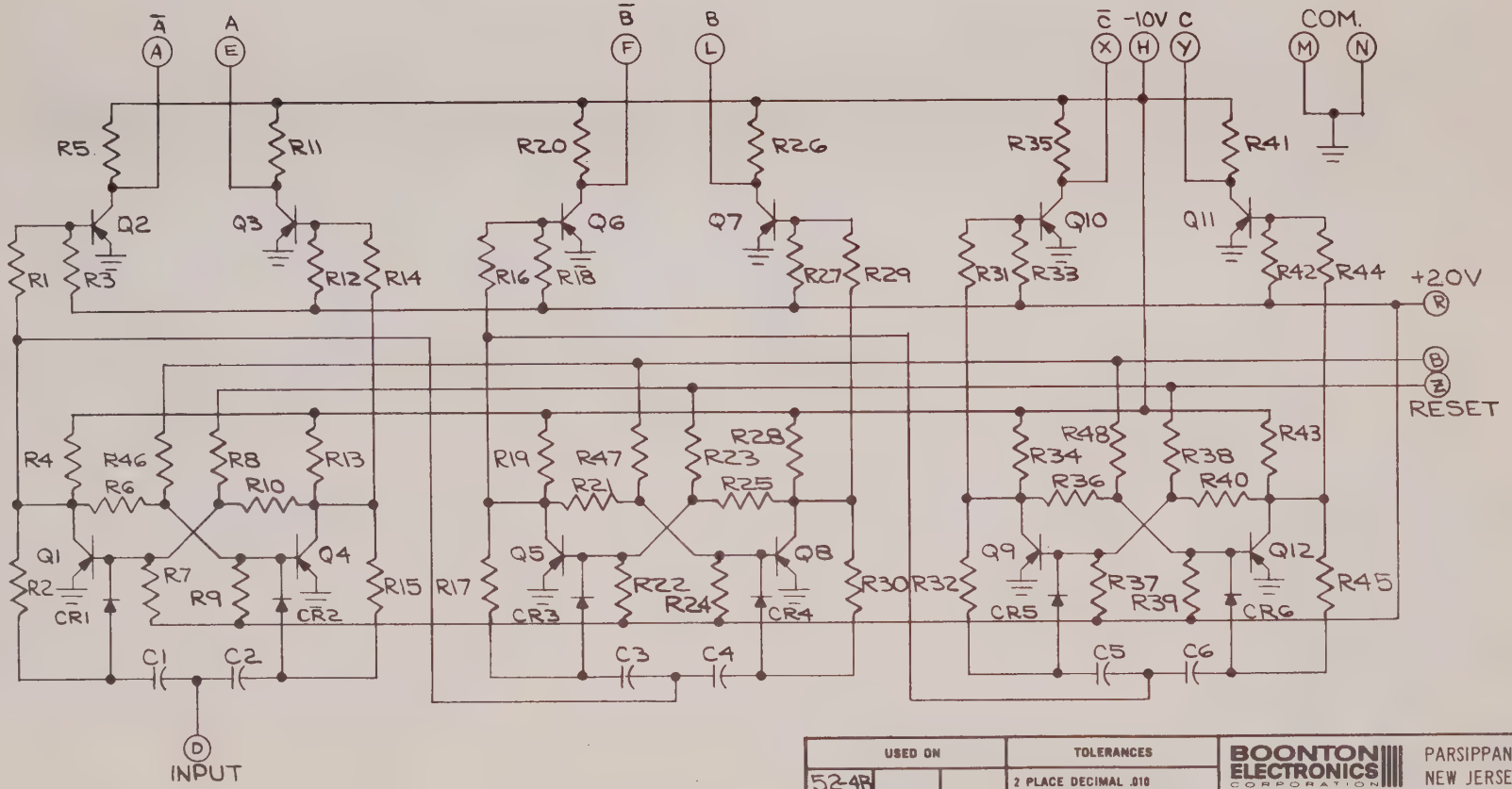
BOONTON ELECTRONICS CORPORATION PARSIPPANY NEW JERSEY

COMP LOC, CTR LOGIC

SH. OF BX5124-49-1&4

C

REVISIONS				
ZONE	REV.	DATE	SIG.	DESCRIPTION
				M 7. 69.



USED ON	TOLERANCES		
5248	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED		
	SCALE:		
	DRN	2-26-68	
	CKD	2-26-68	
	APP		

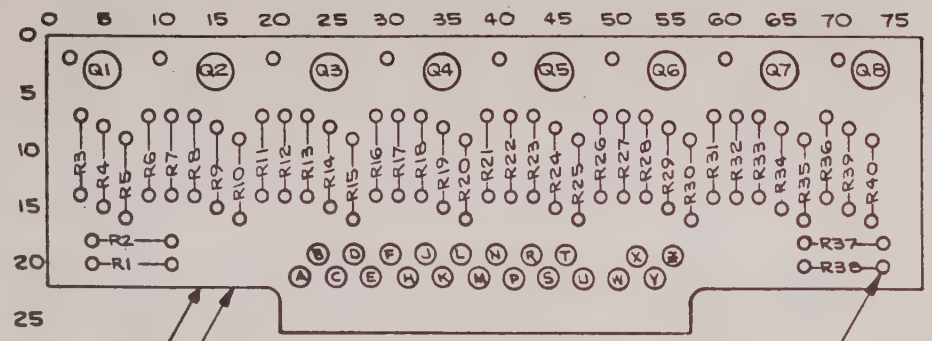
BOONTON ELECTRONICS CORPORATION — PARSIPPANY NEW JERSEY

SCHEMATIC CTR LOGIC

SH. OF — BX5124-50

REVISIONS				
ZONE	REV.	DATE	SIG.	DESCRIPTION

M 7 68



TERM. BD BX5124-51
TERM. BD CX5124-51-1&2
FOR P/C

SOLDER LUG 510024(88)

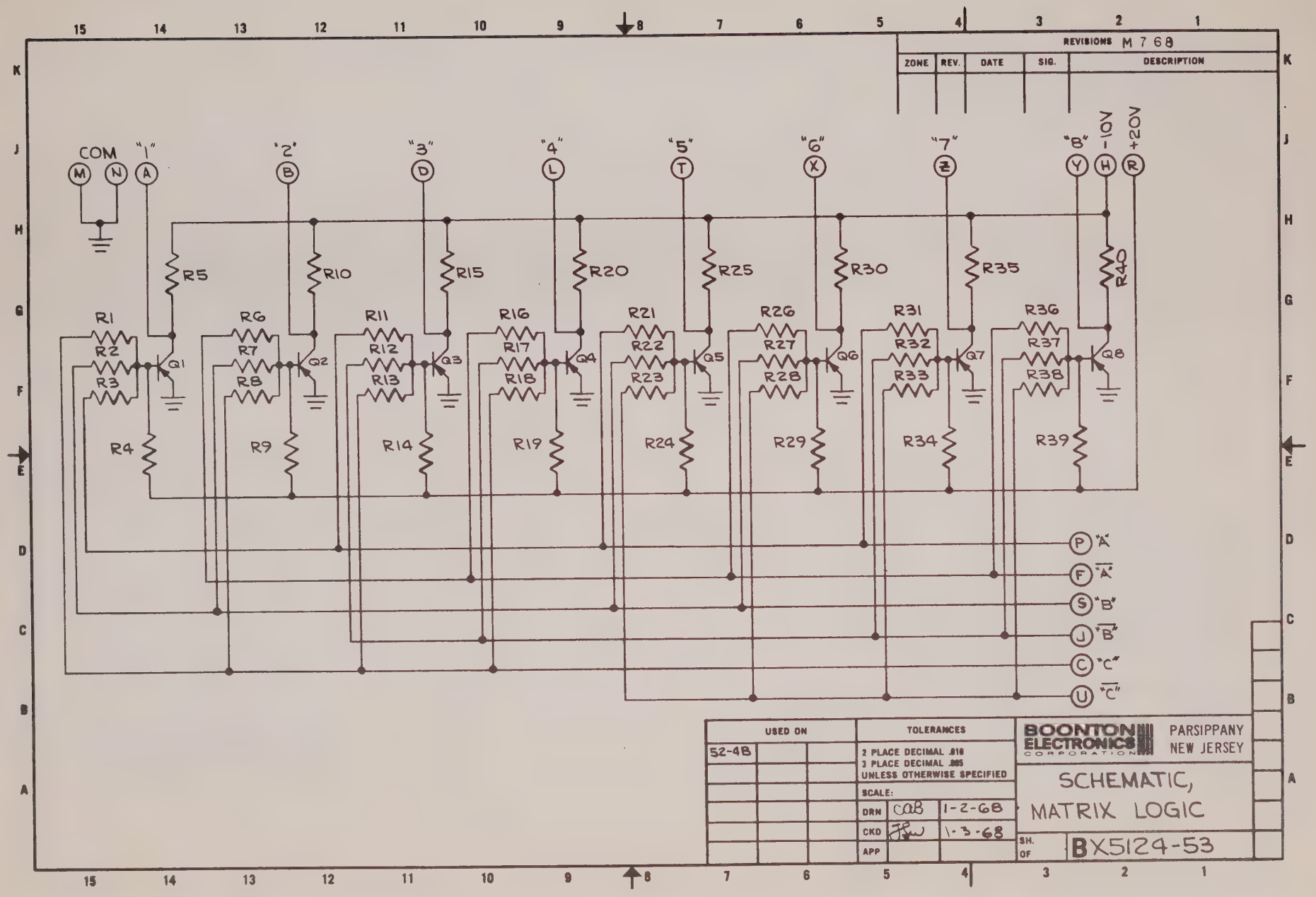
R5, R10, R15, R20, R25, R30, R35, R40	3K 1/2W
R1, R2, R3, R6, R7, R8, R11, R12, R13, R16, R17, R18, R21, R22, R23, R26, R27, R28, R31, R32, R33, R36, R37, R38	30K 1/2W
R4, R9, R14, R19, R24, R29, R34, R39	220K 1/2W
Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8	2N3C4A

USED ON			TOLERANCES		
52-48			2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED		
			SCALE		
			DRN	RAB	1-17-68
			CKD		1-17-68
			APP		

BOONTON ELECTRONICS PARSIPPANY NEW JERSEY

COMP LOC MATRIX

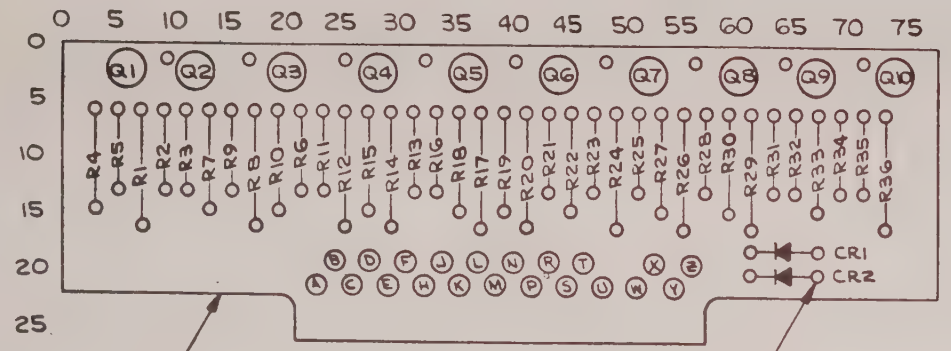
SH. OF BX5124-52-1


REVISIONS M 768
ZONE | REV. | DATE | SIG. | DESCRIPTION
COM
"1"
"2"
"3"
"4"
"5"
"6"
"7"
"8"
-10V
+20V
M
N
A
B
D
L
T
X
Z
Y
H
R
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
R16
R17
R18
R19
R20
R21
R22
R23
R24
R25
R26
R27
R28
R29
R30
R31
R32
R33
R34
R35
R36
R37
R38
R39
R40
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
P "A"
F "$\overline{A}$"
S "B"
J "$\overline{B}$"
C "C"
U "$\overline{C}$"
USED ON
52-48
TOLERANCES
2 PLACE DECIMAL .010
3 PLACE DECIMAL .005
UNLESS OTHERWISE SPECIFIED
SCALE:
DRN CAB 1-2-68
CKD JRW 1-3-68
APP
BOONTON ELECTRONICS CORPORATION
PARSIPPANY NEW JERSEY
SCHEMATIC, MATRIX LOGIC
SH. OF
BX5124-53

REVISIONS				
ZONE	REV	DATE	SIG.	DESCRIPTION
	A	9/18/68	[illegible]	CHANGED R3 VALUE

M 7 68

M 7 68



TERM. BD BX5150-18

SOLDER LUG 510024(85)

R1, R8, R12, R14, R17, R20, R24, R26, R29, R36	22CK 1/2W
R2, , R4, R10, R15, R22, R27, R33	5.1K 1/2W
R5, R6, R9, R11, R13, R3 R16, R21, R23, R25, R28, R31, R32, R34, R35	30K 1/2W
R7, R18, R19, R30.	3K 1/2W
Q1-Q10	2N404A
CR1, CR2	1N456A

NOTE:
1. ALL COMPONENTS TO BE MOUNTED ON BOTTOM OF TERMINAL.

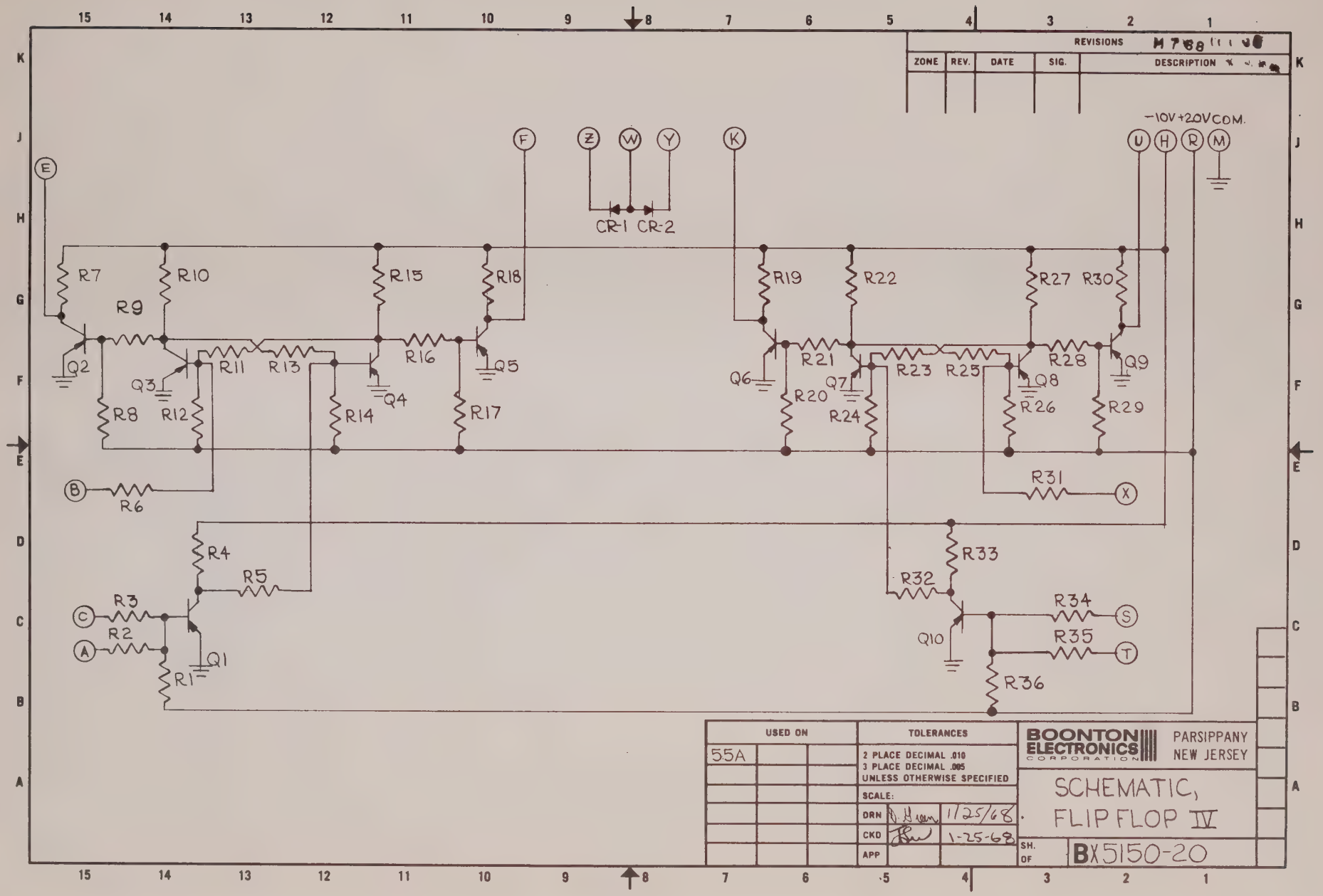
055005

USED ON	TOLERANCES
55A	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED
	SCALE
	DRN CAB 1-19-68
	CKD [signature] 1-19-68
	APP

BOONTON ELECTRONICS PARSIPPANY NEW JERSEY

COMP LOC
FLIP FLOP IV

SH. OF BX5150-19-1 A


REVISIONS
ZONE
REV.
DATE
SIG.
DESCRIPTION
-10V +20V COM.
CR-1 CR-2
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
R16
R17
R18
R19
R20
R21
R22
R23
R24
R25
R26
R27
R28
R29
R30
R31
R32
R33
R34
R35
R36
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
Q10
USED ON
55A
TOLERANCES
2 PLACE DECIMAL .010
3 PLACE DECIMAL .005
UNLESS OTHERWISE SPECIFIED
SCALE:
DRN
CKD
APP
11/25/68
1-25-68
BOONTON ELECTRONICS CORPORATION
PARSIPPANY NEW JERSEY
SCHEMATIC, FLIP FLOP IV
SH. OF
BX5150-20

R1,2,5,8,17,18,20, 22,24,31	30K 1/4W
R3,6,9,19,21,25,32	220K 1/4W
R4,7,10,12,13,15,23, 26,28,30,33	5.1K 1/4W
R11,27,29	100K 1/4W
R14	1K 1/4W
[illegible]	[illegible] 1/4W
Q1-Q10	2N404A
SCR1	2N1595
C1	.022μf
[illegible]	1.0
[illegible]	22μ

REVISIONS				
ZONE	REV.	DATE	SIG	DESCRIPTION

USED ON:			TOLERANCES
SBC	-		2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED
			SCALE:
			DRN [illegible] 1-3-72
			CHD
			APP

BOONTON ELECTRONICS CORPORATION PARSIPPANY NEW JERSEY

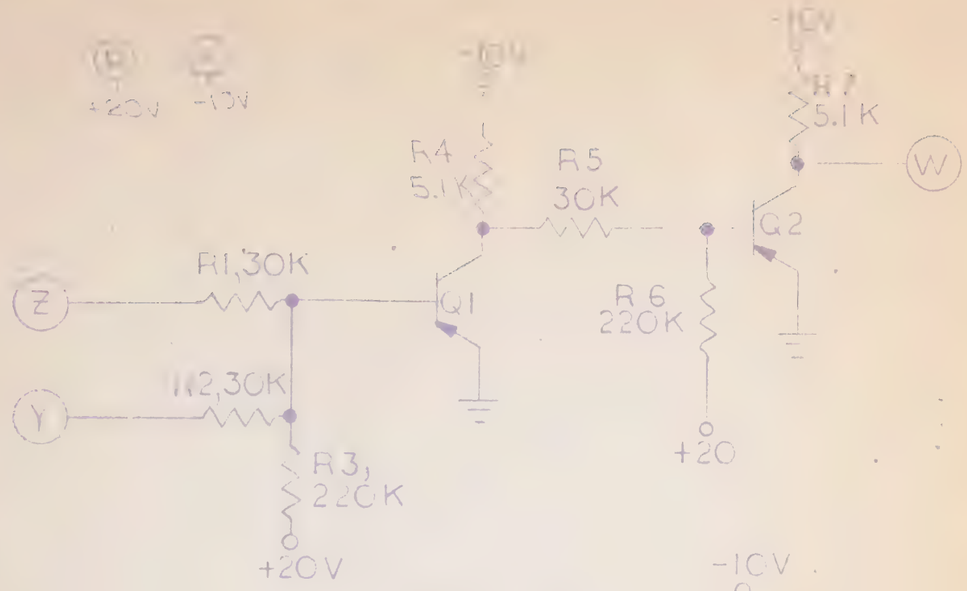
DEC. RESET II

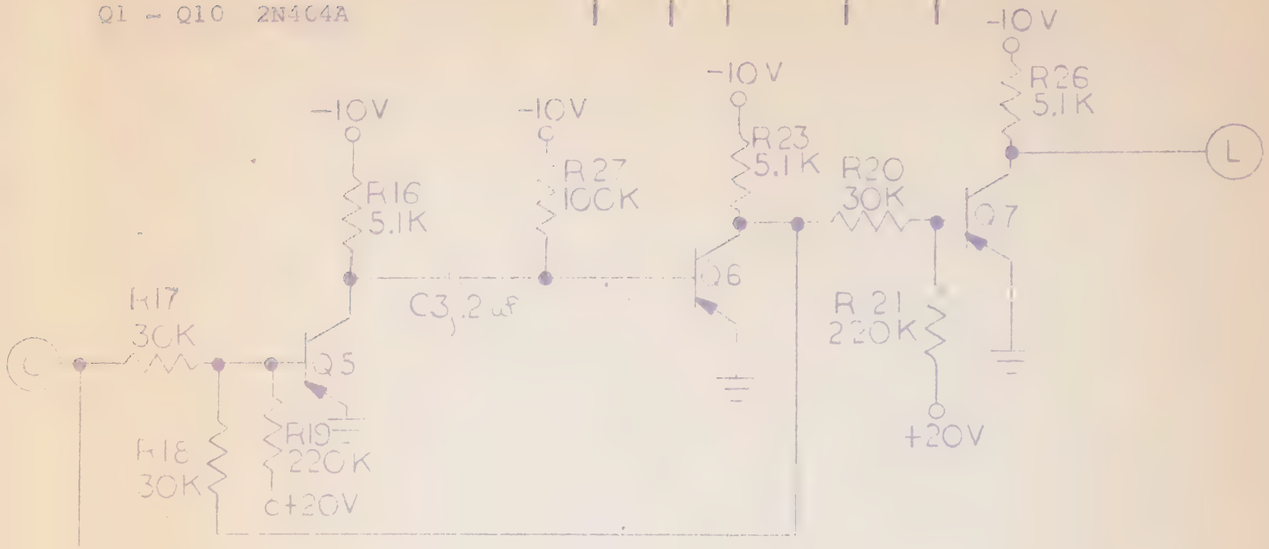
COMP LOCATION

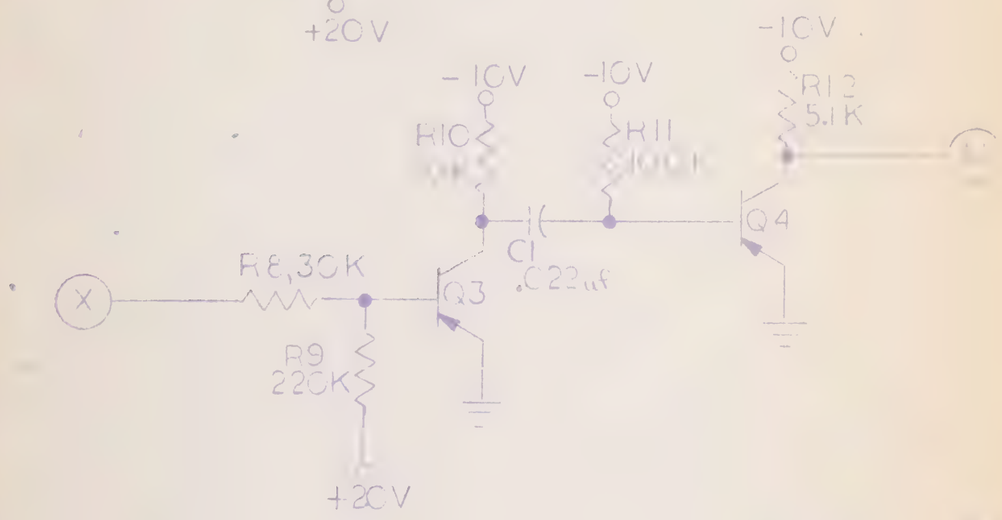
SH. OF B [illegible]

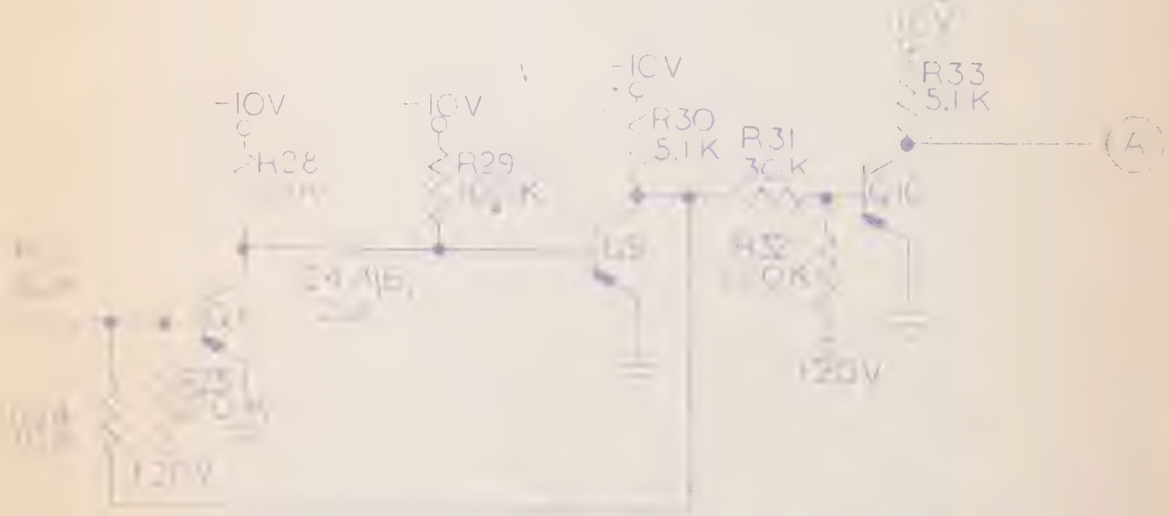
REVISIONS				
ZONE	REV.	DATE	SIG	DESCRIPTION

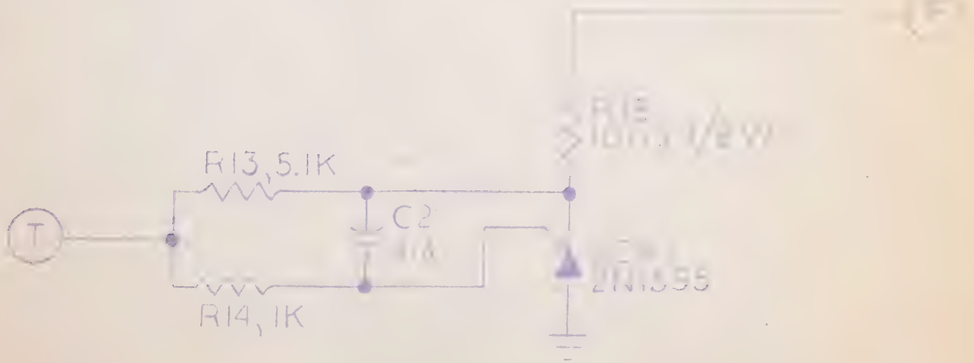
Q1 – Q10 2N404A











USED ON		
55 B		

TOLERANCES
2 PLACE DECIMAL .010
3 PLACE DECIMAL .005
UNLESS OTHERWISE SPECIFIED

SCALE

DRN 1-7-70

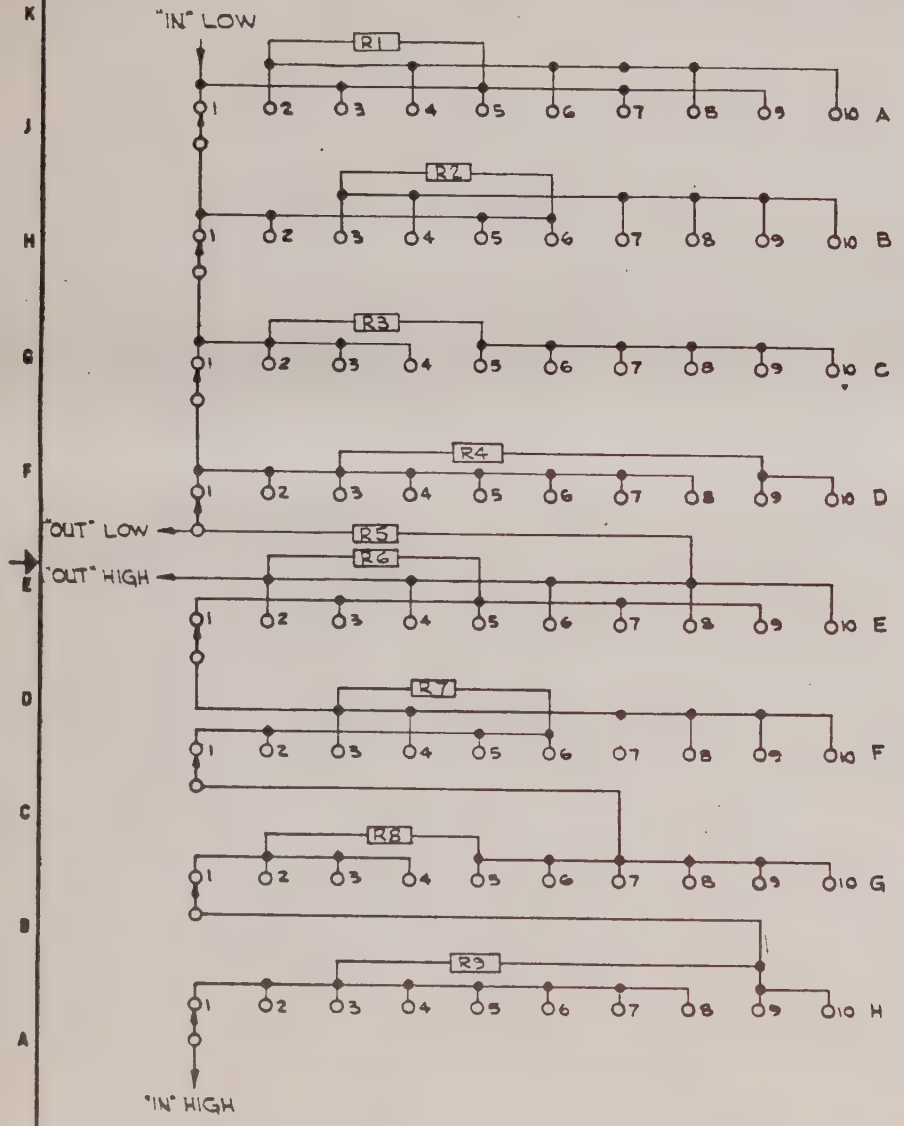
CKD

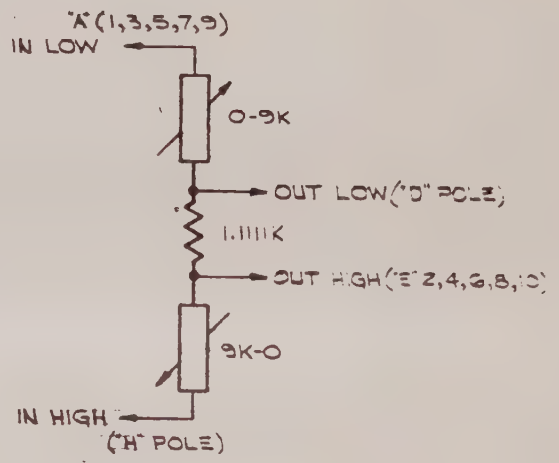
APP

BOONTON ELECTRONICS PARSIPPANY NEW JERSEY

DEC. RESET II SCHEMATIC

SIZE B DWG 8213-3





REVISIONS M 7 RA M 7 67

ZONE	REV	DATE	SIG.	DESCRIPTION

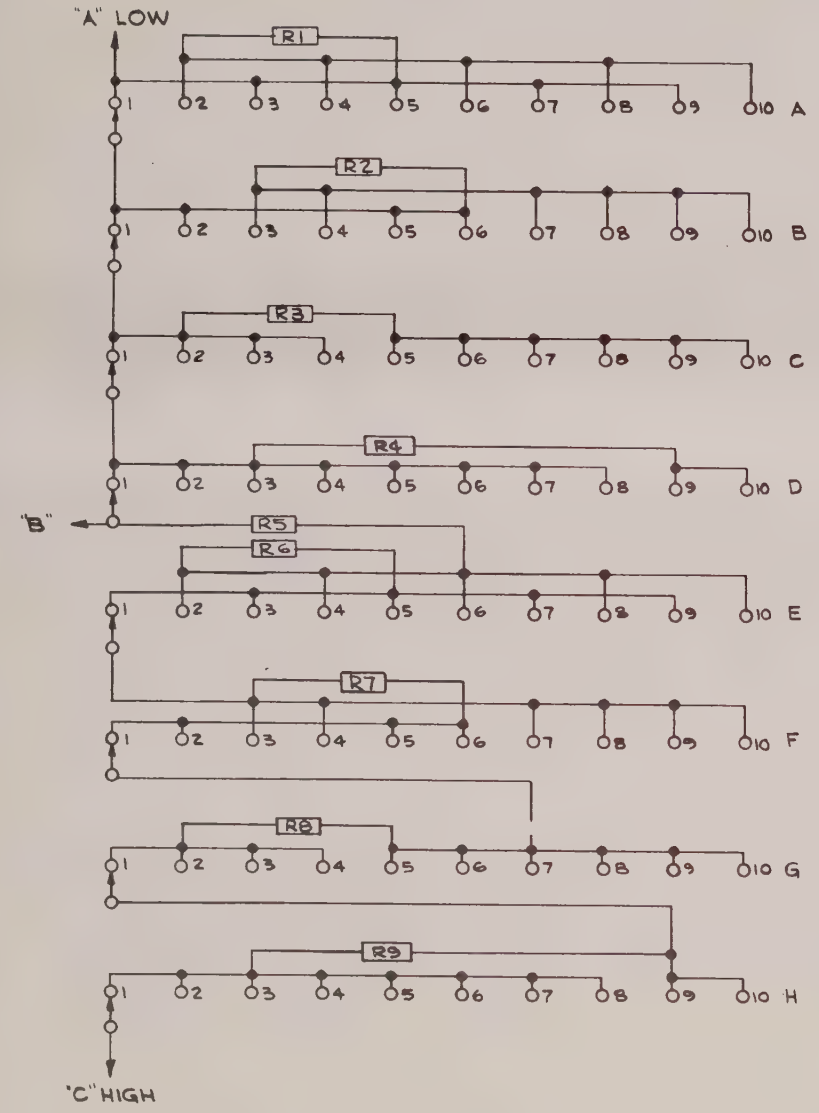
R9	2K	3	.0
R8	4K	1/3	.0
R7	2K	/3	.0
R6	K	1/3	.0
R5	1.11 K	/3	.0
R4	2K	/3	.0
R3	4K	/3	.01
R2	2K	1/3	.0
R1	K	1/3	.0
054003	RESISTOR	ALE	WATT	%

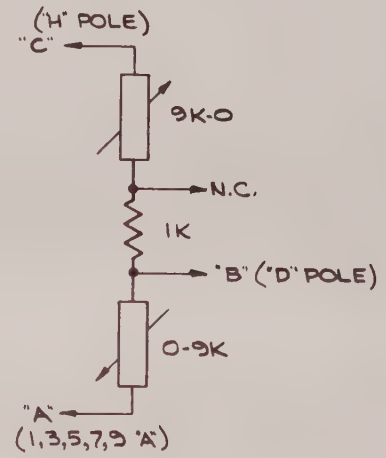
USED ON	TOLERANCES
54A	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED
	SCALE
	DRN 12-21-66
	CKD
	APP

BOONTON ELECTRONICS PARSIPPANY NEW JERSEY

SWITCH ASSY (BCD 1,2,4,2)

SH 01 BX5142-





M 7 68 REVISIONS

M 7 67

ZONE	REV.	DATE	SIG.	DESCRIPTION

RESISTOR	VALUE	WATT	%
R9	2K	1/3	.01
R8	4K	1/3	.01
R7	2K	1/3	.01
R6	1K	1/3	.01
R5	1K	1/3	.01
R4	2K	1/3	.01
R3	4K	1/3	.01
R2	2K	1/3	.01
R1	1K	1/3	.01

054004

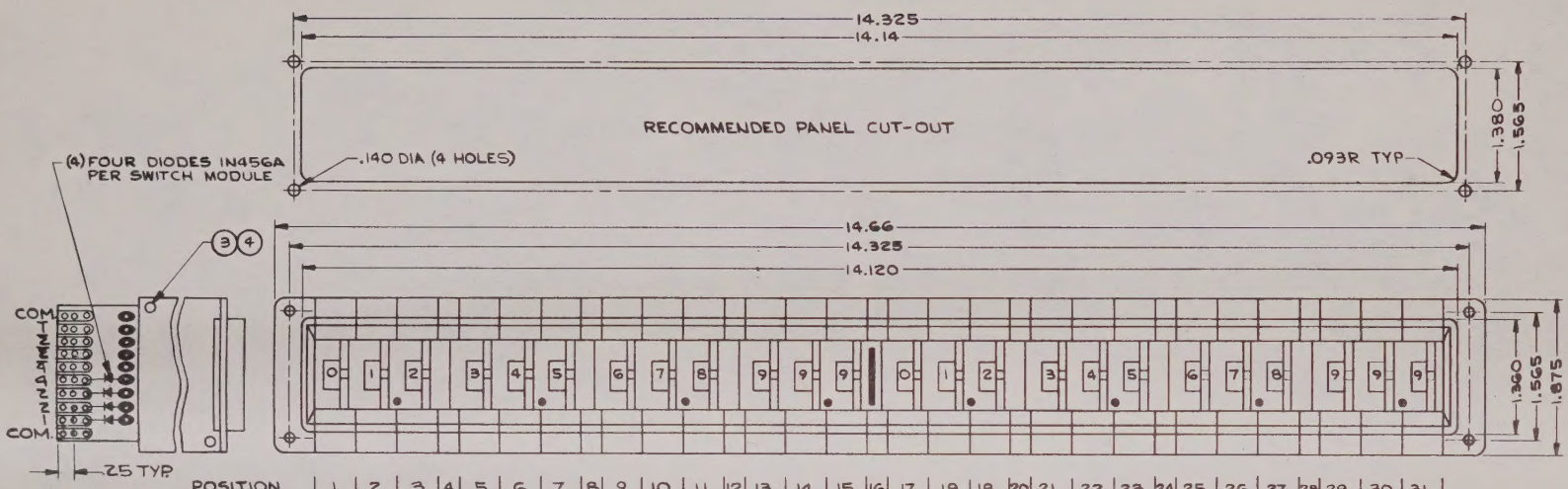
USED ON	TOLERANCES
54A	2 PLACE DECIMAL .010 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED
	SCALE:
	DRN 12-21-66
	CKD
	APP

BOONTON ELECTRONICS CORPORATION
PARSIPPANY NEW JERSEY

SWITCH ASSY (BCD 1,2,4,2)

SH. OF BX5142-8

ZONE	REV.	DATE	SIG.	M 7 68 DESCRIPTION
	A	12/12/68	[illegible]	P.C. FINGERS REDRAWN



POSITION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
ITEM	1	6	8	6	5	6	8	6	5	6	8	6	5	6	8	6	7	6	8	6	5	6	8	6	5	6	8	6	5	6	8	6	2
DIGISWITCH MODULE	350	350	350	SP	350	350	350	SP	350	350	350	SP	350	350	350	SP	350	350	350	SP	350	350	350	SP	350	350	350	SP	350	350	350
DIAL																															
STOPS																															
OTHER			③	⑤			③	⑤			③	⑤			③	⑥			③	⑤			③	⑤			③	⑤			③

NOTES;

1) THIS DRAWING DEFINES A SPECIAL DIGISWITCH ASSEMBLY WITH THE MODIFICATIONS OR SPECIAL FEATURES NOTED BELOW.

2) FOR INSTALLATION DATA, REFER TO DRAWINGS.

③ SPECIAL CASE TO BE MARKED WITH A DECIMAL POINT PER DWG 3-1013-20.

④ SPECIAL GREY SPACER TO BE MARKED WITH A .060 WIDE VERTICAL BLACK LINE, CENTERED ON SPACER, PER DWG 3-1021-15.

⑤ SPACER TO BE GREY.

ITEM NO.	DESCRIPTION	PART NO.	QTY
9	MOUNTING HARDWARE SET	—	
8	DIGISWITCH MODULE (MODIFIED)	350	8
7	1/4" SPACER CASE (MODIFIED)	3-1021-15	1
6	DIGISWITCH MODULE (1,2,2,4 CODE)	350	16
5	1/4" SPACER CASE (GREY)	3-8912-3	6
4	SCREWS (2-56 × 1/4" PAN HEAD SCREW)	DH-96	4
3	STUDS	3-4801-274,250	2
2	MOUNTING BRACKET, R.H.	3-0609	1
1	MOUNTING BRACKET, L.H.	3-0610	1

LIST OF MATERIAL

USED ON: 55A

TOLERANCES: 2 PLACE DECIMAL .010; 3 PLACE DECIMAL .005 UNLESS OTHERWISE SPECIFIED

SCALE:

DRN	COB	12-6-67
CKD	[signature]	12-7-67
APP		

BOONTON ELECTRONICS CORPORATION — PARSIPPANY NEW JERSEY

SWITCH, THUMBWHEEL

SH. OF — CX5150-8 — A

466901

EARLE & JONES INC.
NEW YORK

2-1866

MP MASTER
MA24687